November 1976 Number 387-Part I

Solar-Geophysical Data prompt reports

Data for October 1976–September 1976

Explanation of Data Reports Issued as Number 378 (Supplement) February 1976

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Solar - Geophysical Data

NO. 387 NOVEMBER 1976

Part I (Prompt Reports)

DATA FOR
OCTOBER 1976
SEPTEMBER 1976

NATIONAL GEOPHYSICAL AND SOLAR - TERRESTRIAL DATA CENTER
BOULDER, COLORADO

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NO. 387

Issued in two parts

Hope I. Leighton, Editor

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Solar - Terrestrial Data Services Division

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Note: A = Part I, B = Part II.

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OCTOBER 1976 DATA

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ALERT PERIODS

INTERNATIONAL URSIGRAM
AND WORLD DAYS SERVICE

OCTOBER 1976

SUMMARY OF THE GEOALERT WWA MESSAGES

Message serial number	Date of issue	Date of observation	Wolf number	10 cm solar flux	A index	Active Regions: Location Lat-Long	Flares: Total	Flares: M	Flares: X	Outstanding events	Forecasts: Date	Forecasts: Location Lat-Long	Forecasts: Desc*	Alert Situations
275	1	30	48	72	08	N16E00	0	0	0		1	N16E00	Q	SOLQUIET MAGQUIET
						S27E01	0	0	0			S27E01	Q	
						N28W39	0	0	0			N28W39	Q	
						N31W01	0	0	0			N31W01	Q	
276	2	1	39	75	12	N16W13	0	0	0		2	N16W13	Q	SOLQUIET MAGQUIET
						S27W12	0	0	0			S27W12	Q	
						N32W14	0	0	0			N32W14	Q	
277	3	2	36	74	21	N16W25	0	0	0		3	N16W25	Q	SOLQUIET MAGALERT MINOR 03
						S27W24	0	0	0			S27W24	Q	
						S32W26	0	0	0			S32W26	Q	
278	4	3	36	74	07	N32W38	0	0	0		4	N32W38	Q	SOLQUIET MAGNIL
						N16W37	0	0	0			N16W37	Q	
						S27W36	0	0	0			S27W36	Q	
279	5	4	33	73	04	N16W51	0	0	0		5	N16W51	Q	SOLQUIET MAGQUIET
						S27W50	0	0	0			S27W50	Q	
						N32W49	0	0	0			N32W49	Q	
280	6	5	34	75	11	N16W64	0	0	0		6	N16W64	Q	SOLQUIET MAGQUIET
						S27W63	0	0	0			S27W63	Q	
						N32W62	0	0	0			N32W62	Q	
281	7	6	41	75	09	N16W78	0	0	0		7	N16W78	Q	SOLQUIET MAGQUIET
						S26W77	0	0	0			S26W77	Q	
						N32W73	0	0	0			N32W73	Q	
282	8	7	34	75	04	N32W87	0	0	0		8	N32W87	Q	SOLQUIET MAGQUIET
						S03E08	0	0	0			S03E08	Q	
						S22E30	0	0	0			S22E30	Q	
283	9	8	00	75	07	-	-	-	-		9	SPOTNIL		SOLQUIET MAGQUIET
284	10	9	00	75	06	-	-	-	-		10	SPOTNIL		SOLQUIET MAGQUIET
285	11	10	11	75	07	S23W11	0	0	0		11	S23W11	Q	SOLQUIET MAGQUIET
286	12	11	12	74	06	N24E35	0	0	0		12	N24E35	Q	SOLQUIET MAGQUIET
287	13	12	22	74	06	S11E74	0	0	0		13	S11E74	Q	SOLQUIET MAGALERT MINOR 14/16
						S27E42	0	0	0			S27E42	Q	
288	14	13	23	73	07	S11E58	0	0	0		14	S11E58	Q	SOLQUIET MAGALERT MINOR 15/19
						S27E27	0	0	0			S27E27	Q	
289	15	14	37	75	03	S11E43	0	0	0		15	S11E43	Q	SOLQUIET MAGALERT MINOR 15/19
						S27E17	0	0	0			S27E17	Q	
290	16	15	36	76	20	S10E30	1	0	0		16	S10E30	Q	SOLQUIET MAGALERT MINOR 16/19
						S27E03	0	0	0			S27E03	Q	
291	17	16	32	78	24	S11E18	0	0	0		17	S11E18	Q	SOLQUIET MAGALERT MINOR 17/19
						S27W08	0	0	0			S27W08	Q	
292	18	17	29	78	30	S11E03	0	0	0		18	S11E03	Q	SOLQUIET MAGALERT MINOR 18
						S27W30	0	0	0			S27W30	Q	
						S25E57	0	0	0			S25E57	Q	
293	19	18	28	78	20	S09W09	0	0	0		19	S09W09	Q	SOLQUIET MAGNIL
						S26W33	0	0	0			S26W33	Q	
294	20	19	15	77	04	S26W46	2	0	0		20	S26W46	Q	SOLQUIET MAGQUIET STRATWARM ALERT /WEDNESDAY/ SPRING-TIME TEMPERATURE REVERSAL PROGRESSING OVER ANTARCTICA IN MID-STRATOSPHERE. GRADUAL WARMING OVER NEXT WEEKS WILL LEAD TO CIRCULATION REVERSAL PROGRESSING DOWNWARD FROM UPPER TO LOWER STRATOSPHERE.
295	21	20	24	77	07	S09W35	0	0	0		21	S09W35	Q	SOLQUIET MAGQUIET
						S26W54	0	0	0			S26W54	Q	
296	22	21	24	74	08	S10W49	0	0	0		22	S10W49	Q	SOLQUIET MAGQUIET
						S28W68	0	0	0			S28W68	Q	
297	23	22	31	76	07	S10W64	0	0	0		23	S10W64	Q	SOLQUIET MAGQUIET
						N29E11	1	0	0			S29E11	Q	
298	24	23	47	81	05	N29W04	0	0	0		24	N29W04	Q	SOLQUIET MAGQUIET
						S27E64	0	0	0			S27E64	Q	
299	25	24	46	81	05	N29W15	0	0	0		25	N29W16	Q	SOLQUIET MAGQUIET
						S27E52	0	0	0			S27E52	Q	
300	26	25	51	86	05	N30W26	0	0	0		26	N30W26	Q	SOLQUIET MAGQUIET
						S29E40	0	0	0			S29E40	Q	

ALERT PERIODS

INTERNATIONAL URSIGRAM
AND WORLD DAYS SERVICE

OCTOBER 1976

SUMMARY OF THE GEOALERT WWA MESSAGES

Message serial number	Date of issue	Date of observation	Wolf number	10 cm solar flux	A index	Active Regions: Location Lat-Long	Active Regions: No. of Flares Total	M	X	Outstanding events	Forecasts: Date	Location Lat-Long	Desc*	Alert Situations
301	27	26	49	81	04	N29W40 S27E26	0 0	0 0	0 0		27	N29W40 S27E26	Q Q	SOLQUIET MAGQUIET
302	28	27	41	78	05	N30W53 S29E13	0 0	0 0	0 0		28	N30W53 S29E13	Q Q	SOLQUIET MAGALERT MINOR 28/29
303	29	28	31	75	06	N30W66 S29W01	3 0	0 0	0 0		29	N30W66 S29W01	Q Q	SOLQUIET MAGALERT 29/30
304	30	29	25	73	04	N30W80 S29W12	1 0	0 0	0 0		30	N30W80 S29W12	Q Q	SOLQUIET MAGNIL
305	31	30	11	73	12	N28W91	0	0	0		31	N28W91	Q	SOLQUIET MAGQUIET
306	01	31	00	72	22	-	-	-	-		01	SPOTNIL		SOLQUIET MAGALERT 01/01

* Q=Quiet E=Eruptive A=Active P=Proton C=Caution D=Doubtful O.G.=Other Groups MF=Major Flare

RELATIVE SUNSPOT NUMBERS

ZURICH, R_z

	1975 FINAL		1976 PROVISIONAL									
DAY	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT
1	0	7	0	0	0	26	35	0	9	10	17	31
2	8	23	0	0	0	25	26	0	8	18	20	28
3	7	20	0	0	0	22	25	0	14	19	12	30
4	16	23	0	0	0	13	8	0	8	14	11	32
5	22	21	0	0	0	12	22	0	8	17	17	25
6	27	18	0	0	10	9	10	0	10	15	10	24
7	30	20	0	0	12	0	10	0	7	26	9	30
8	33	18	0	0	7	0	9	11	0	30	9	7
9	30	8	0	0	10	8	8	10	0	31	18	14
10	26	0	0	0	12	10	10	7	0	24	22	0
11	30	0	0	0	13	15	16	7	0	22	24	0
12	24	0	20	0	13	17	17	8	0	29	20	14
13	22	0	26	13	13	17	23	8	0	27	12	17
14	29	7	30	16	22	19	30	15	0	16	10	25
15	28	7	20	18	16	19	17	18	0	8	16	27
16	28	7	22	11	11	19	12	12	0	15	14	32
17	30	9	24	8	30	24	18	18	0	19	8	30
18	33	8	20	15	45	27	8	24	0	23	8	28
19	36	7	18	10	51	27	20	23	0	25	7	21
20	35	0	16	12	51	36	20	17	0	19	0	20
21	31	0	11	8	48	39	14	30	0	17	0	15
22	23	0	10	7	36	20	7	31	0	8	0	18
23	12	0	10	0	28	17	15	23	0	9	7	34
24	11	18	0	7	25	16	8	26	0	17	7	33
25	8	14	0	0	22	17	0	19	0	9	16	32
26	7	8	0	0	42	28	7	19	0	14	17	30
27	6	0	7	7	46	23	0	9	0	7	18	26
28	0	0	0	6	50	21	0	16	0	8	18	21
29	0	0	14	0	42	26	0	11	0	9	25	17
30	0	0	8		32	38	0	10	0	10	31	9
31		0	0		27		0		0	9		0
MEAN	19.4	7.8	8.5	4.6	23.0	19.5	12.7	12.4	2.1	16.9	13.4	21.8

1975 yearly mean = 15.5

DAILY SOLAR FLUX AT 2800 MHz
OTTAWA ARO

FLUX ADJUSTED TO 1 A.U., S_a

	1975		1976									
DAY	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT
1	70.4	72.1	72.1	68.6	67.7	79.0	77.6	68.4	69.3	75.9	70.3	74.6
2	71.4	74.8	71.2	68.0	68.1	76.8	74.2	67.9	69.1	77.8	75.3	73.9
3	73.0	74.3	71.3	68.4	67.4	76.1	71.9	68.1	69.5	82.3	75.7	73.8
4	75.4	74.1	71.0	68.4	67.4	74.7	71.5	68.4	68.6	82.3	75.9	73.1
5	78.9	77.4	71.9	67.6	67.6	73.0	71.1	68.7	69.5	84.2	75.4	74.8
6	80.1	75.8	71.7	68.1	67.5	71.3	69.9	69.3	69.6	84.3	73.1	74.7
7	80.5	73.7	71.6	69.3	67.9	70.3	70.3	69.0	69.5	83.7	73.0	74.5
8	80.9	76.0	70.9	68.4	67.9	71.9	70.2	70.7	69.7	82.0	72.9	74.6
9	78.8	73.3	69.4	68.3	68.2	74.1	70.6	70.1	69.7	82.8	73.2	74.8
10	78.9	73.3	70.0	68.3	68.4	75.3	71.7	71.0	70.1	82.8	75.8	74.9
11	78.6	74.3	72.1	68.4	68.3	77.1	72.5	71.4	70.2	80.4	75.7	73.7
12	79.9	73.4	76.3	67.8	68.9	78.1	72.6	71.7	69.8	80.6	75.7	73.3
13	79.2	72.8	80.0	69.7	70.9	79.0	73.6	72.0	69.8	78.7	74.3	72.6
14	82.7	71.8	82.1*	69.9	70.1	79.5	74.2	73.7	70.7	73.4	74.7	74.4
15	83.7	71.8	80.4	69.6	69.1	79.2	76.9	74.3	71.4	72.9	73.9	75.5
16	87.6	70.5	78.1	69.7	72.5	80.6	79.2	77.1	69.8	72.9	75.8	77.0
17	88.9	70.5	76.6	69.9	74.4*	80.2	78.5	77.1	69.4	77.8	76.5	78.0
18	90.8*	69.6	76.7	70.1	79.0	80.5	75.6*	77.9	70.6	78.2	74.3	77.3
19	93.0*	69.1	75.2	70.1	81.6*	79.3	73.8	76.9	70.2	76.1	73.3	76.6*
20	90.9	69.7	74.6	70.0	85.0	80.0	73.0	76.9	69.4	74.5	72.2	75.8
21	86.6	69.0	72.1	68.8	91.2	78.0	74.0	77.7	70.1	73.2	70.9	73.5
22	81.5	68.9	70.9	68.9	83.0	76.2*	72.5	78.9	70.1	72.3	70.5	75.4
23	77.2	69.6	74.2	69.2	80.9	75.7	71.9	76.5	68.7	70.8	72.0	80.1
24	74.7	71.4	68.5	69.5	82.2*	76.8	70.8	75.2	69.4	70.9	72.5	80.1
25	73.7	71.0	68.2	68.4	85.1	75.7	69.8	74.9	68.8	70.6	73.4	84.7
26	71.9	71.8	68.2	68.5	84.1*	75.7	69.5	74.3	68.5	70.1	72.8	80.4
27	73.7	72.5	67.2	68.5	85.5	74.6	69.6	72.8	69.4	71.5	73.3	77.4
28	74.4	71.5	67.1	67.3	87.1*	73.4	69.0	71.8	69.4	72.8	73.6	73.8
29	70.9	72.5	67.4	67.4	84.0	79.0	68.0	71.3	69.4	73.3	71.9	72.1
30	70.6	71.9	68.9		82.4	79.5*	68.1	70.3	70.7	73.0	72.6	72.1
31		72.1	69.1		82.7		68.7		72.3	73.8		73.4
MEAN	79.1	72.3	72.4	68.8	75.8	76.7	72.2	72.8	69.8	76.6	73.9	75.4

* adjusted for burst

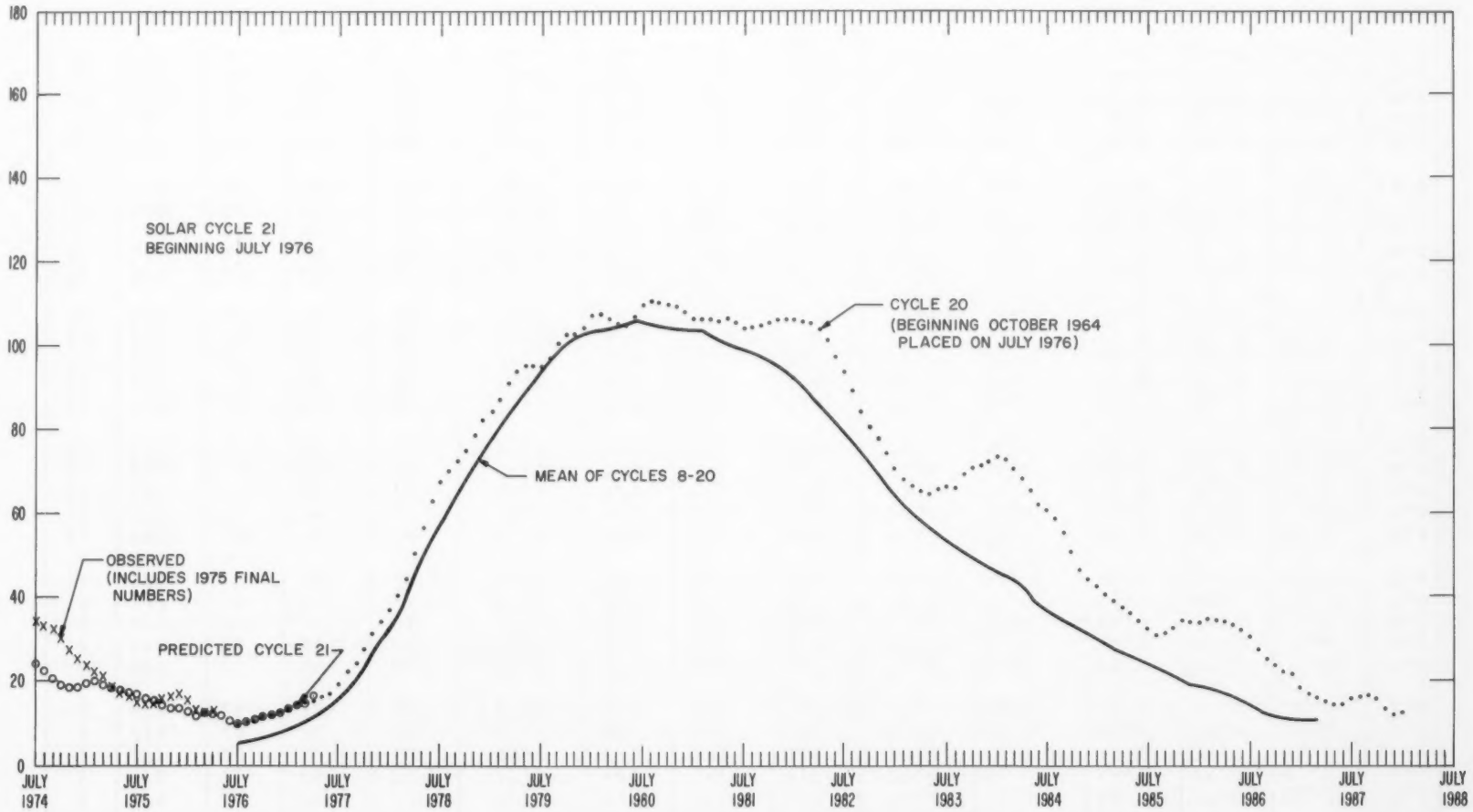
DAILY SOLAR INDICES

OCTOBER 1976

OCT 1976	YEAR DAY	BARTELS 27-DAY CYCLE NUMBER	SUNSPOT NUMBERS		OBSERVED FLUX	SOLAR FLUX ADJUSTED TO 1 A.U.								
			R_Z	$R_{A'}$	OTTAWA 2800	AFGL 15400	AFGL 8800	AFGL 4995	OTTAWA 2800	AFGL 2695	AFGL 1415	AFGL 606	AFGL 410	AFGL 245
1	275	20	31	31	74.5	519	265	117	74.6	73.4	46.6	38.9	22.3	8.2
2	276	21	28	32	73.8	520	267	115	73.9	72.7	46.6	39.4	21.5	8.4
3	277	22	30	31	73.7	520	270	116	73.8	72.0	45.0	38.7	21.8	10.5
4	278	23	32	30	73.1	524	269	115	73.1	71.2	43.7	37.8	21.1	7.7
5	279	24	25	24	74.8	521	268	117	74.8	73.5	48.6	38.0	21.3	7.6
6	280	25	24	26	74.8	523	265	117	74.7	73.0	48.5	37.2	20.0	7.8
7	281	26	30	23	74.6	523	267	117	74.5	71.8	47.0	38.1	20.4	8.0
8	282	27	7	1	74.7	524	267	117	74.6	72.1	48.7	36.9	21.6	8.1
9	283	1	14	3	75.0	523	267	117	74.8	72.8	48.5	38.1	20.3	7.8
10	284	2	0	0	75.1	521	267	117	74.9	73.4	48.2	39.1	21.9	7.9
11	285	3	0	0	74.0	527	273	115	73.7	72.1	47.2	36.2	20.0	7.9
12	286	4	14	10	73.6	521	269	116	73.3	72.4	48.8	37.6	21.9	8.2
13	287	5	17	13	73.0	521	267	115	72.6	71.0	47.9	35.8	20.5	7.3
14	288	6	25	25	74.8	519	271	117	74.4	74.1	48.9	37.8	20.2	8.2
15	289	7	27	26	76.0	518	273	118	75.5	74.4	49.9	38.7	21.0	7.5
16	290	8	32	27	77.5	522	272	119	77.0	76.5	49.5	38.5	19.4	7.4
17	291	9	36	29	78.5	524	277	120	78.0	77.5	50.8	37.3	20.3	7.7
18	292	10	28	21	77.9	526	282	120	77.3	77.4	50.8	39.6	18.8	7.2
19	293	11	21	18	77.2*	522	279	118	76.6*	75.4	50.4	37.9	20.1	7.9
20	294	12	20	16	76.5	521	276	117	75.8	74.5	50.5	38.2	20.6	8.0
21	295	13	15	13	74.2	522	274	117	73.5	73.3	50.3	38.8	20.7	8.0
22	296	14	18	14	76.2	525	276	118	75.4	75.0	50.5	37.3	20.0	8.0
23	297	15	34	29	80.9	526	278	125	80.1	80.4	50.5	39.1	20.1	8.0
24	298	16	33	28	81.0	524	280	124	80.1	80.6	52.9	37.3	18.6	7.6
25	299	17	32	32	85.7	522	278	129	84.7	84.5	53.2	40.0	21.2	10.3
26	300	18	30	28	81.4	519	276	123	80.4	81.2	52.6	38.8	20.4	9.3
27	301	19	26	22	78.4	516	275	118	77.4	78.0	52.9	37.5	20.3	8.4
28	302	20	21	19	74.8	519	277	120	73.8	76.7	49.9	39.8	19.2	8.1
29	303	21	17	13	73.1	508	272	116	72.1	72.3	48.0	38.4	19.8	10.9
30	304	22	9	5	73.1	516	272	115	72.1	72.6	47.7	36.9	19.6	8.1
31	305	23	0	0	71.5		273	115	70.4	71.8	48.0	36.4	18.5	7.8
MEAN			21.8	19.1	75.9	521	272	118	75.4	74.8	49.1	37.9	20.4	8.2

* Adjusted for burst.

7 Oct 76



PREDICTED AND OBSERVED SUNSPOT NUMBERS

SMOOTHED OBSERVED AND PREDICTED SUNSPOT NUMBERS
CYCLE 21

MONTH	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1976	15.5	13.4	12.5	13.0	10.2	10.1	10.0	10.3	10.9	11.5	12.1	12.6
					(--)	(--)	(--)	(1)	(1)	(2)	(3)	(3)
1977	13.6	14.5	15.3	16.8	18.4	19.7	21.7	24.1	27.2	30.8	33.9	36.5
	(4)	(5)	(7)	(8)	(10)	(12)	(14)	(17)	(20)	(23)	(26)	(29)
1978	39.4	42.8	46.3	50.3	54.6	59.3	63.8	66.9	69.4	71.7	75.1	79.8
	(32)	(36)	(40)	(43)	(47)	(52)	(55)	(59)	(62)	(65)	(66)	(68)
1979	84.4	88.2	93.0	97.3	100.1	102.0	104.1	107.0	109.4	110.5	110.4	110.3
	(71)	(74)	(77)	(79)	(81)	(83)	(87)	(90)	(92)	(93)	(94)	(94)
1980	109.7	108.7	109.0	110.4	112.0	113.3	114.4	115.0	114.6	114.4	114.7	114.9
	(93)	(90)	(87)	(84)	(83)	(83)	(79)	(76)	(73)	(70)	(70)	(69)
1981	116.5	119.2	118.2	114.6	111.7	110.2	109.5	110.0	111.4	112.4	112.3	111.0
	(69)	(70)	(70)	(68)	(66)	(64)	(62)	(60)	(59)	(58)	(57)	(54)
1982	108.2	104.1	101.5	100.0	98.6	96.6	93.3	88.5	83.5	80.4	75.7	72.8
	(51)	(49)	(47)	(46)	(44)	(42)	(41)	(39)	(37)	(33)	(29)	(27)
1983	69.8	67.2	65.8	65.1	64.3	63.1	61.6	61.7	62.5	62.4	62.3	62.0
	(26)	(25)	(24)	(23)	(23)	(22)	(23)	(22)	(22)	(23)	(24)	(25)
1984	61.5	60.4	58.4	55.8	53.0	50.9	50.0	48.1	45.6	44.1	42.8	41.6
	(25)	(25)	(25)	(24)	(24)	(26)	(27)	(28)	(29)	(28)	(26)	(25)
1985	41.0	40.0	38.6	37.6	37.1	36.2	34.6	33.1	32.1	31.3	30.8	29.7
	(24)	(23)	(23)	(22)	(22)	(22)	(21)	(20)	(19)	(19)	(19)	(20)
1986	29.2	29.8	29.9	29.2	27.8	26.3	25.0	23.5	22.3	21.5	20.7	20.3
	(20)	(20)	(19)	(18)	(17)	(16)	(15)	(15)	(14)	(13)	(11)	(10)
1987	19.4	18.3	17.6	17.4								
	(8)	(8)	(8)	(9)								

For each month, the upper figure is the observed or predicted Zürich smoothed sunspot number. The lower figure in parenthesis is the corresponding absolute value of the 90% prediction interval, an indication of the uncertainty above and below the predicted number. Observed numbers are those with no prediction intervals. The observed smoothed sunspot numbers are based on final Zürich numbers through 1975.

The predicted sunspot numbers are derived from a regression analysis based on cycles 8 through 20. Tests indicate that earlier cycles are from a different statistical population.

This prediction for the new sunspot cycle is based on an assumption that sunspot minimum occurred in July 1976 with a smoothed number of 10. The predictions will be changed after sunspot minimum has been observed.

Hα SOLAR FLARES

OCTOBER 1976

OBSERV-ATORY	OBSERVED UT				LOCATION					DURATION	IMPORTANCE	OBS.		MEASUREMENTS			REMARKS
	DATE	START	MAX. PHASE	END	APPROX. LAT.	APPROX. MER. DIST.	CENTRAL DISTANCE	MCMATH PLAGE REGION	CMP DAY	MIN.		COND.	TYPE	TIME — UT	MEAS. AREA Millionths of Disk	CORR. AREA Sq. Deg.	
RAMY	05	1709	1726	1734	N28	W58	.900		1.4	25	SF	3	C		26		DE
MCMA	05	1725	1726	1732	N30	W60	.917	14454	1.2	7	SN		C	1726	30	.6	D
MCMA	13	1611	1612	1616	S08	E65	.905	14476	18.5	5	SF		C	1612	25	.6	DL
CATA	14	0910	0910	0920	S10	E53	.800		18.4	10	SN	2	C	0910	56	1.0	
MCMA	14	1424	1427	1431	S07	E50	.766	14476	18.4	7	SN		C	1427	25	.4	D
MCMA	15	1846	1858	1914	S09	E33	.551	14476	18.3	28	SN		C	1858	120	1.5	EKL
PALE	19	1701E	1710	1736	S28	W42	.739		16.6	35D	SN	2	C		120		U F
PALE	19	1741	1745	1752	S29	W42	.744		16.6	11	SB	3	C		80		DE
MONT	22	0903	0906	0911	S17	W90	1.000		15.6	8	SF		C	0906	20		
MONT	22	0943	0946	0952	N18	E82	.993		28.6	9	SF		C	0946	40		DG
PALE	22	1902	1907U	2003	N29	E12	.544		23.7	61	SF	2	C		64		
MITK	23	0043	0048	0055	S24	W90	1.000	14475	16.3	12	1F		C	0048	120		G
MONT	23	0939	0946	1021	N28	E05	.502		23.8	42	SB		C	0946	40		E
WEND	23	1009		1021	N29	E04	.515		23.7	12	SN						
RAMY	27	1058	1115	1122	N27	W49	.819		23.8	24	SN	4	C		44		F H
UPIC	28	0945E	0945	1000	N29	W67	.943	14494	23.4	15D	1F		P	0945	82		
UPIC	28	1130E	1130	1145	N29	W61	.910	14494	23.9	15D	1F		P	1130	102		
MCMA	29	1740	1742	1750	N32	W80	.990	14494	23.7	10	SN		C	1742			D
MCMA	29	1826	1828	1832	N29	W78	.985	14494	23.9	6	SN		C	1828			D
RAMY	29	1908E	1913U	1929D	N28	W85	.998		23.4	21D	SF	3	C				FDE
RAMY	29	1908E	1913U	1929D	N28	W85	.998		23.4	21D	SF	3	V				FDE
MCMA	29	1915	1923	1940	N28	W83	.995	14494	23.6	25	1F		C	1923			E

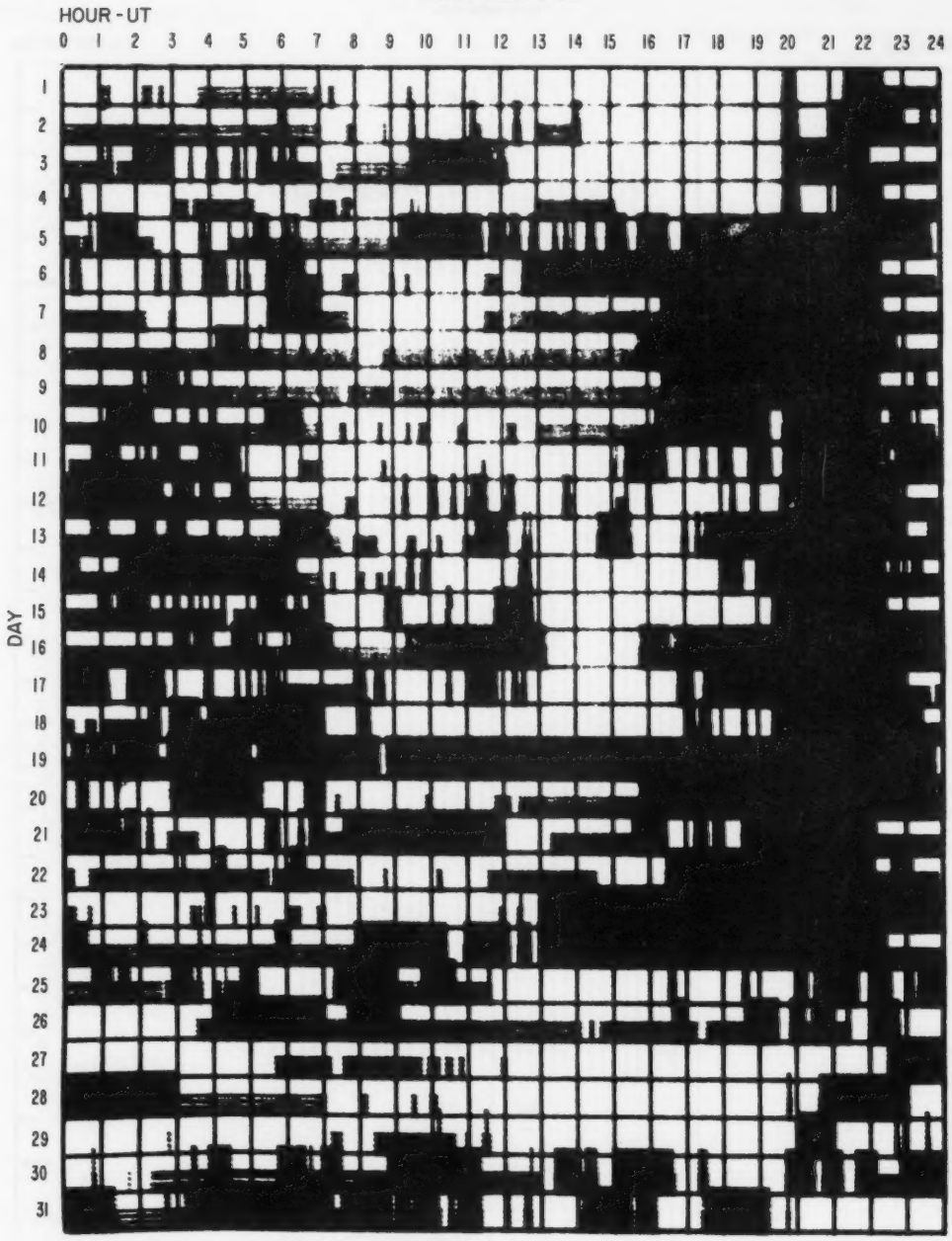
"Remarks":

A = Eruptive prominence whose base is less than 90° from central meridian.
B = Probably the end of a more important flare.
C = Invisible 10 minutes before.
D = Brilliant point.
E = Two or more brilliant points.
F = Several eruptive centers.
G = No visible spots in the neighborhood.
H = Flare accompanied by a high speed dark filament.
I = Active region very extended.
J = Distinct variations of plage intensity before or after the flare.
K = Several intensity maxima.
L = Existing filaments show signs of sudden activity.
M = White-light flare.
N = Continuous spectrum shows effects of polarization.
O = Observations have been made in the calcium II lines H and K.
P = Flare shows helium D_3 in emission.
Q = Flare shows the Balmer continuum in emission.
R = Marked asymmetry in Hα line suggests ejection of high velocity material.
S = Brightness follows disappearance of filament (same position).
T = Region active all day.
U = Two bright branches, parallel (||) or converging (Y).
V = Occurrence of an explosive phase: important and abrupt expansion in about a minute with or without important intensity increase.
W = Great increase in area after time of maximum intensity.
X = Unusually wide Hα line.
Y = System of loop-type prominences.
Z = Major sunspot umbra covered by flare.

INTERVALS OF NO FLARE PATROL OBSERVATION

FOR PRECEDING SOLAR FLARE TABLE

OCTOBER 1976



Observatories included in total patrol:

Athenes	Herstmonceux	McMath-Hulbert	Palehua	Upice
Bucharest	Istanboul	Mitaka	Ramey	Wendelstein
Catania	Manila	Monte Mario	Tehran	

Times of no flare patrol are shown by the shaded area for each day divided into times of no cinematographic patrol (bottom half of day) and times of neither visual nor cinematographic patrol (top half of day).

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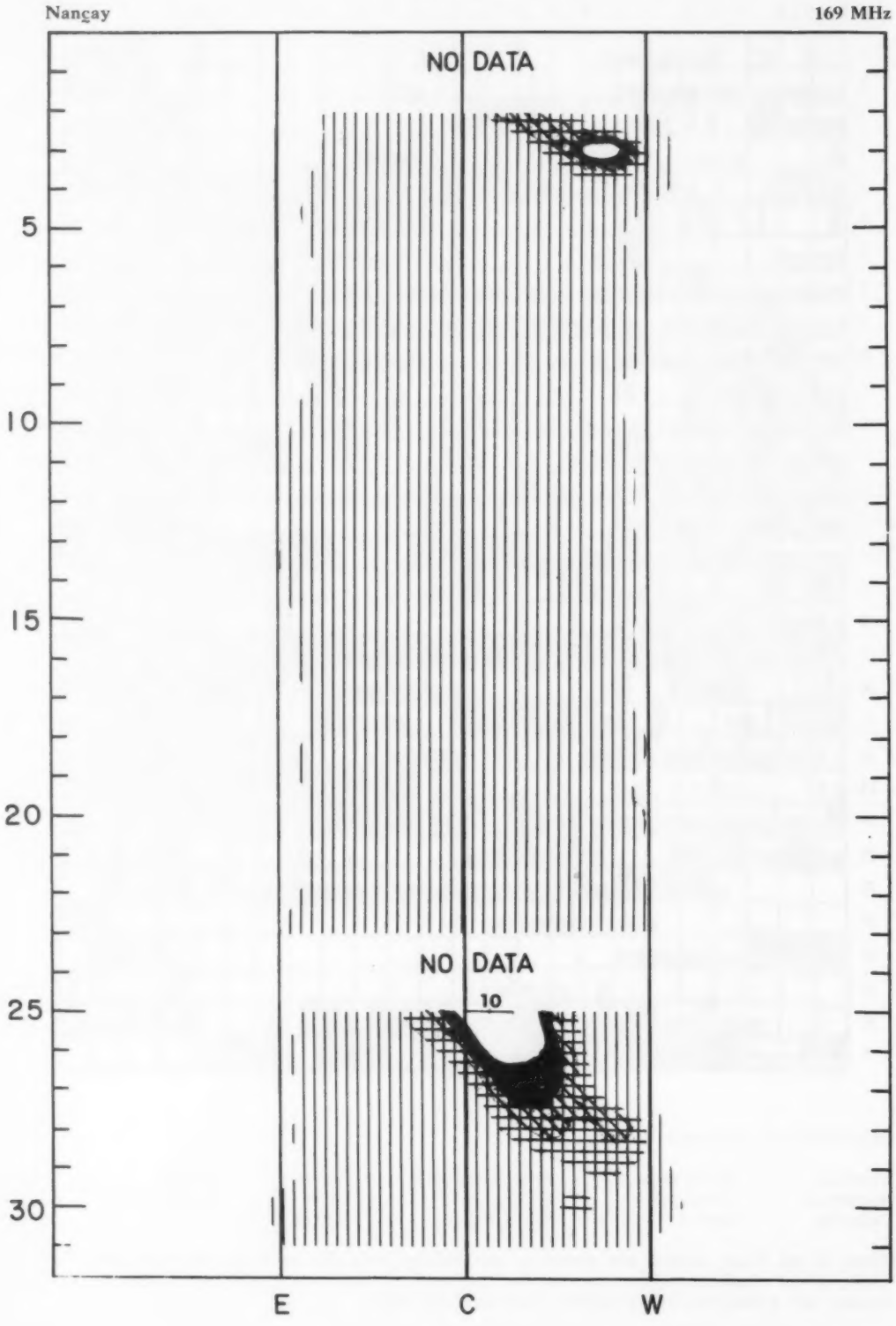
Oct 76

SOLAR RADIO EMISSION
INTERFEROMETRIC OBSERVATION

OCTOBER 1976

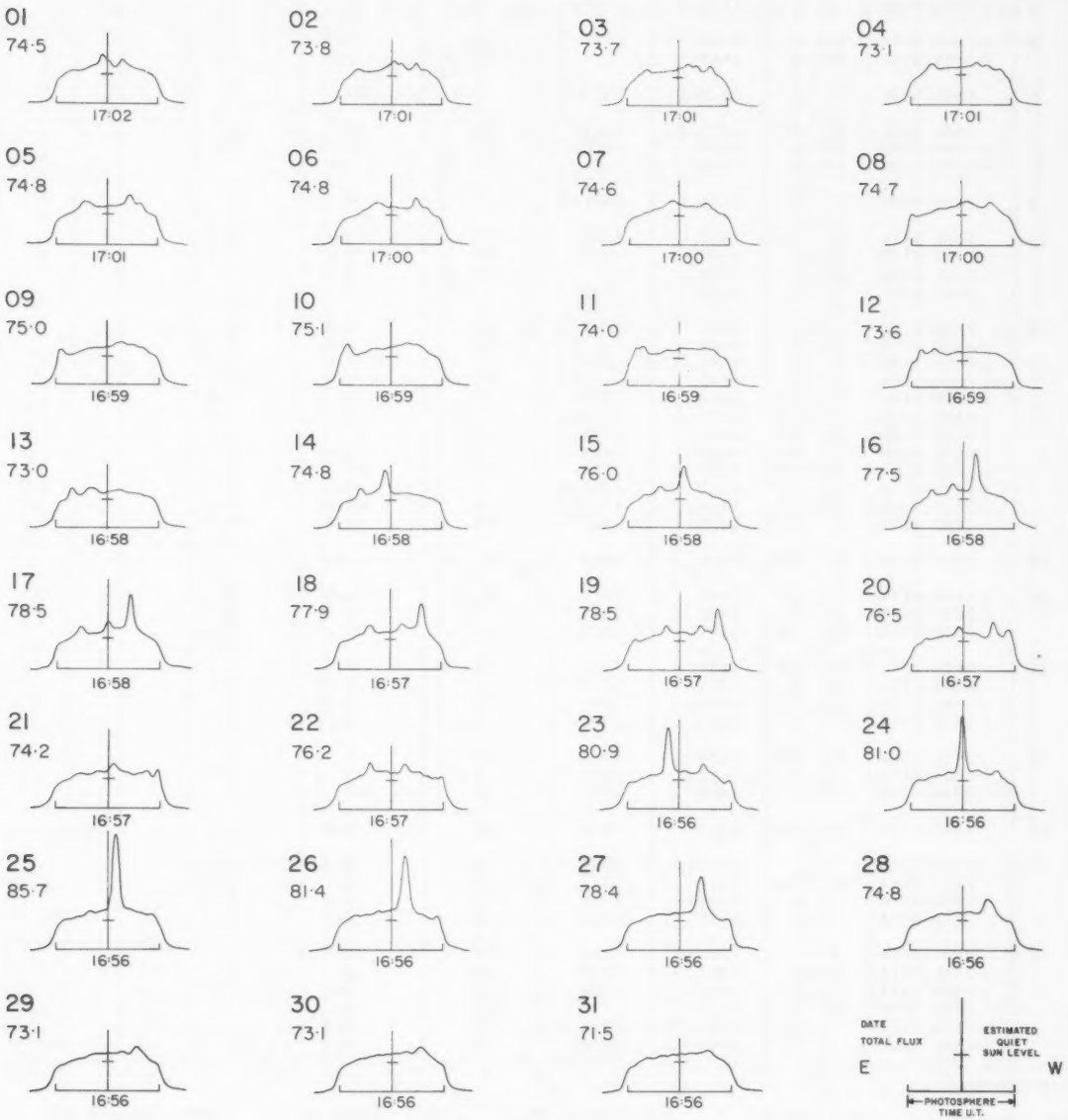


EAST-WEST SOLAR SCANS

OCTOBER 1976

ALGONQUIN RADIO OBSERVATORY
CANADA

10·7cm
Fan Beam with 1·5 minutes of arc
E-W Resolution



SOLAR RADIO EMISSION
SELECTED FIXED FREQUENCY EVENTS

OCTOBER 1976

	FREQUENCY	STATION	TYPE	STARTING TIME	TIME OF MAXIMUM	DURATION	FLUX DENSITY 10^{-22} Wm^{-2} Hz^{-1}		INT	REMARKS
				UT	UT	MINUTES	PEAK	MEAN		
1	2695	BOUL	1 S	1536.5	1537.5	1	4	1		
5	2800	OTTA	240 R	1335	1445	70	1.2	0.6		
	2800	OTTA	24P R	1445		550 D	1.2			
6	2695	BOUL	45 C	2018.5	2019.5	1.5	22	7		
7	2695	BOUL	20 GRF	1555.5	1601	12	4	1		
	2695	PENT	240 R	2105	2300	115	2.4	1.2		
	2695	PENT	24P R	2300		65 D	2.4			
9	2695	BOUL	2 SF	1636.5	1637.5	2	2	1		
15	2800	OTTA	26 FAL	1410	1500	50	-0.8	-0.4		
	2800	OTTA	240 R	1805	1900	55	2.2	1.1		
	2800	OTTA	24P R	1900		120 D	2.2			
	2695	BOUL	1 S	2244	2245	1.5	2	1		
19	2800	OTTA	20 GRF	1335	1345	40	2.4	0.8		
	2800	OTTA	27A RF	1455		255	0.8	0.6		
	2800	OTTA	24 R	1455	1545	50	0.8	0.4		
	2800	OTTA	24P R	1545		155	0.8			
	2800	OTTA	21 GRF	1647	1705	80	3	1.3		
	8800	SGMR	2 S/F	1657.9	1658.8	9.6	2.6	.8		
	2695	SGMR	22 GRF	1656.8	1659.4	10.7	11	6.6		
	2695	PENT	2 S/F	1657	1659.5	5.5	9.6	3		
	2695	BOUL	23 GRF	1657	1700	17.5	12	3		
	2800	OTTA	2 S/F	1742.4	1742.9	1	5.2	2.6		
	2695	SGMR	4 S/F	1742.5	1742.8	6	11.2	3.3		
	2800	OTTA	26 FAL	1820	1910	50	-0.8	-0.4		
20	2800	OTTA	20 GRF	1940	2210	200 D	1.4			
24	2800	OTTA	21 GRF	1610	1619	50	1.6	0.8		
	2800	OTTA	8 S	1616	1616.5	0.7	1	0.5		
	2800	OTTA	20 GRF	1845	1904	40	1	0.5		
25	2800	OTTA	21 GRF	1300	1306	20 D	1.2			
	2800	OTTA	1 S	1301	1302.6	3	1.4	0.7		
	2800	OTTA	21 GRF	1340	1346	20	2.2	1		
	2800	OTTA	1 S	1343.7	1344	1.5	2.2	1.7		
26	2800	OTTA	23 GRF	1240	1310	210	2	1		
	2800	OTTA	8 S	1411.7	1411.8	0.6	1	0.5		
	2800	OTTA	22 GRF	1620	1757	190	2	1		
27	2800	OTTA	20 GRF	1925	2000	120	1.6	0.8		
28	2695	MANI	1	0516.2	0519.2	5.6	5.8	2.3		
	2800	OTTA	26A FAL	1410	1510	60	-1	-0.5		
	2800	OTTA	1 S	1454.5	1455	1.5	1.4	0.7		
	2800	OTTA	1 S	1915	1916	10	0.8	0.4		
29	2800	OTTA	1 S	1740	1743	10	0.6	0.3		
	2800	OTTA	240AR	1912	2000	48	2	1		
	2800	OTTA	1 S	1915.2	1916	3	1.6	0.8		
	2800	OTTA	24P R	2000		180 D	2			
	2695	PENT	2 S/F	2204	2204.8	1	1.8	1		
	2695	BOUL	8 S	2205	2206	2	4	1		

Observatories:

BOUL = Boulder MANI = Manila OTTA = Ottawa ARO PENT = Penticton SGMR = Sagamore Hill

Explanation of Type Code:

1 Simple 1
2 Simple 1F
3 Simple 2
4 Simple 2F
5 Simple
6 Minor
7 Minor +
8 Spike
20 Simple 3
21 Simple 3A
22 Simple 3F
23 Simple 3AF
24 Rise
25 Rise A
26 Fall
27 Rise and Fall
28 Precursor
29 Post Burst Increase
30 Post Burst Increase A
31 Post Burst Decrease
32 Absorption
40 Fluctuation
41 Group of Bursts
42 Series of Bursts
43 Onset of Noise Storm
44 Noise Storm in Progress
45 Complex
46 Complex F
47 Great Burst
48 Major
49 Major +

SOLAR WIND

Interplanetary Scintillations

OCTOBER 1976

UCSD 74 MHZ SCINTILLATIØNS

DAY	3C48 VEL	ERR	3C144 VEL	ERR	3C147 VEL	ERR	3C161 VEL	ERR	3C237 VEL	ERR	3C273 VEL	ERR	3C298 VEL	ERR	3C459 VEL	ERR
1			269	20									492	1		
3													495	6		
5			416	*			375	*					589	*		
6			350	43					290	4			585	45		
7									304	46			619	39		
8									279	*			616	38		
9			273	69									545	10		
10													522	45		
11													546	18		
12			420	54					296	16			498	9		
13	380	71	507	53			264	57	399	31			496	6	365	25
14									343	30			535	14		
15	427	3	310	45					381	59			571	23	626	78
17													511	*		
18													611	76		
19			212								283	12	529	2		
20									504	9			550	2		
21									442	15	225	21	551	23		
22			489	86												
23			409	4			402	43			304	29	0	0		
24			343	36			318	9					697	13		
25			315	0					250	20	175	8	707	76		
26			339	*							208	12	732	229		
27											273	5				
28											212	6	483	41		
29											221	*				
30											274	7	498	9		
31											603	106	702	33	397	16

OCTOBER	5 UT	LAT	DIST	DLØN	15 UT	LAT	DIST	DLØN	25 UT	LAT	DIST	DLØN
3C48	9.	11.	1.27	5.	8.	10.	1.28	3.	8.	9.	1.28	1.
3C144	13.	5.	1.14	14.	12.	4.	1.18	13.	12.	3.	1.21	11.
3C147	12.	12.	1.11	14.	11.	11.	1.15	13.	11.	10.	1.19	11.
3C161	14.	-2.	1.07	14.	14.	-2.	1.11	13.	13.	-3.	1.15	11.
3C237	18.	-2.	0.67	47.	17.	-1.	0.79	37.	17.	0.	0.88	28.
3C273	20.	29.	0.16	83.	19.	12.	0.31	73.	19.	6.	0.47	63.
3C298	22.	50.	0.43	-57.	21.	69.	0.35	-43.	20.	70.	0.33	42.
3C459	6.	8.	1.28	-5.	6.	8.	1.26	-7.	5.	7.	1.24	-9.

* indicates data for which no error estimates are available because only two antennas were operating.

NOTE: This marks the resumed monthly publication of solar wind speeds by the IPS method. For the period August 1975 to July 1976 errors of about 25% were present in the published data. These were caused by an incorrect filter. The data have now been corrected and will be published soon in the Comprehensive Reports. They are also available on request from W. Coles or B. Rickett at UCSD.

PIONEER VI

OCTOBER 1976

Date Oct. 1976	DSN Coverage (UT)	Data Time (UT)	ESP (°)	SOLAR WIND AMES[1] U_{H^+} (km/sec)†	SOLAR WIND AMES[1] TAU (days)	SOLAR WIND MIT U_{H^+} (km/sec)	SOLAR WIND MIT N_{H^+} (H^+/cc)	COSMIC RAY PROTONS[2] (particles/sec) 6-13 (Mev*)	13-175 (Mev**)	>175 (Mev)
27	0244-0423	0300	029.5	339.	2.7	348.	12.5	0.64	0.142	1.36
		0400		339.		342.	14.	.69	.146	1.33

[1] Wolfe - NASA/ARC
[2] Simpson - University of Chicago

* Includes He 0.6-13 Mev/nucleons and electrons ~0.5 Mev - see J. Retzler and J. A. Simpson, J. Geophys. Res., 74, 9, 2149-2160, 1969 for discussion of the electron response of Pioneer VII.

** Includes He >13 Mev/nucleons.
Q Used to indicate that a rate is at its quiescent level.

ESP = Earth-Sun Probe Angle.

† Peak velocity

Note: Data sampled hourly unless otherwise noted.

Note: This coverage was obtained as a result of PN-6 alignment with Helios.

PIONEER IX

OCTOBER 1976

Date Oct. 1976	DSN Coverage (UT)	Data Time (UT)	ESP (°)	SOLAR WIND[1]				IP E-FIELD[2]	IMF[3]		COSMIC RAY PROTONS[4] (particles/sec)	
				U_{H^+} (km/sec)*	N_{H^+} (H^+/cc)	T_{H^+} ($\times 10^{6}$°K)	TAU (days)	400 Hz (mv)	|B| (γ)	φ (°)	>13.9 Mev	>40 Mev
10	2307-0324	2300	056.2	630.	---	---	4.6	0.14	7.8	163.	7.1	0.52
		2400		630.	---	---		.133	7.9	128.	7.1	.54
		0100		585.	---	---		.148	7.4	163.	7.	.53
		0200		608.	---	---		.125	8.5	124.	7.1	.65
		0300		608.	---	---		.21	9.6	120.	7.	.58
20	2354-0346	0000	054.4	376.	---	---	4.1	.155	4.6	125.	7.25	.72
		0100		376.	---	---		.155	3.5	126.	7.26	.66
		0300		376.	---	---		.136	4.6	160.	7.24	.49
		0400		376.	---	---		.117	4.2	172.	7.18	.73
28	0014-0353	0000	053.28	404.	---	---	4.	.148	6.3	124.	7.74	1.31
		0100		404.	---	---		.144	6.	142.	7.5	.8
		0200		417.	---	---		.184	5.5	168.	7.34	.76
		0300		430.	---	---		.121	5.7	115.	7.56	.76
		0400		430.	---	---		.14	5.1	132.	7.51	.6

[1] Wolfe - NASA/ARC
[2] Scarf - TRW, Inc.
[3] Sonett and Colburn - NASA/ARC
[4] Webber - Univ. of N.H.

* Peak velocity

Note: Data sampled hourly unless otherwise noted.

ESP = Earth-Sun Probe Angle.

Note: This coverage was obtained as a result of PN-9 alignment with Helios.

SOLAR X-RAYS BY SATELLITE
SMS GOES

OCTOBER 1976

.5 - 4Å Hourly Averages (10^{-5} watts/m^2)

MO DA	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	Mean
10/ 1	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M
10/ 2	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M
10/ 3	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M
10/ 4	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M
10/ 5	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M
10/ 6	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M
10/ 7	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M
10/ 8	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M
10/ 9	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M
10/10	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M
10/11	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M
10/12	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M
10/13	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M
10/14	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M
10/15	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M
10/16	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M
10/17	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M
10/18	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M
10/19	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M
10/20	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M
10/21	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M
10/22	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M
10/23	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M
10/24	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M
10/25	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M
10/26	M	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B
10/27	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	M	M	M	B	B	B	B	B	B	B
10/28	B	B	B	B	B	Ø.Ø2	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B
10/29	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	Ø.Ø1	B	B	B	B
10/30	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	Ø.Ø1	B
10/31	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	M	B	B	B

Note: "B" indicates the flux was below the cut-off levels.
"M" denotes periods of missing data.

SOLAR X-RAYS BY SATELLITE
SMS GOES

OCTOBER 1976

1 - 8Å Hourly Averages (10^{-4} watts/m^2)

MO DA	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	Mean
10/ 1	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M
10/ 2	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M
10/ 3	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M
10/ 4	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M
10/ 5	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M
10/ 6	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M
10/ 7	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M
10/ 8	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M
10/ 9	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M
10/10	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M
10/11	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M
10/12	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M
10/13	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M
10/14	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M
10/15	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M
10/16	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M
10/17	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M
10/18	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M
10/19	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M
10/20	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M
10/21	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M
10/22	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M
10/23	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M
10/24	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M
10/25	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M
10/26	M	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	.01	B	B
10/27	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	M	M	M	B	B	B	B	B	B	B
10/28	B	B	B	B	B	.03	.01	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B
10/29	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	.02	B	B	B
10/30	.02	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B
10/31	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	.39	B	M	B	B	B

Note: "B" indicates the flux was below the cut-off levels.
"M" denotes periods of missing data.

19
Oct 76

CORONAL HOLES

Helium D3 Chromosphere at Solar Limb

OCTOBER 1976

The D3 coronal hole observations have now resumed on a daily basis and will be presented in the usual format. For October, however, only two observations were made, the results of which are as follows:

Date:	Position angles of hole boundaries (degrees):			
	South:		North:	
October 24	-155	169	-16	24
October 25	-156	159	- 3	16

INFERRED IP MAGNETIC FIELD

BARTELS ROTATION	DATE	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27
1938	APR 18	A A	A A	A A	A A	A *	A A*	A A	- A	A A	A A	A A	T T	A A	A A	T T	- T	T T	- T	T T	T T	A A*	T T	T T	- A	T AT	T T	TA T
1939	MAY 15	T T	A A	TA TA	A A	A A	T T	TA TA	- *	A A	A A	A A	- -	- -	- -	- -	- -	- -	- -	- -	- -	T -	* -	* -	* *	T T	T T	A A
1940	JUN 11	A A	A A	A A	A A	A A	* -	- -	- -	- -	- -	A A	TA A	A AT	A A	A A	A A	T T	T T	T T	A A	TA*	A A	T T	T T	T T*	T T*	T T
1941	JUL 8	A A	A A	A A	A A	TA A	A A	TA *	A A	TA TA	A A	T T	A A	A A*	- *	A A*	A T	A A	T T	T TA	A AT	T T	T T	T T	T T	AT AT	A A	A A
1942	AUG 4	A A	A A	A T	A A	T T	AT T	A A	A A	A A	A A	A A	A A	A A	T T	T -	A T	T *.	T T	TA T	T T	T T	T -	AT AT	T T	T T	A A	A A
1943	AUG 31	A A	A A	TA A*	T T	A A	A A	TA A	T T*	A A	A A	A A	A A	A *	A A	A A*	A A*	A T	T T	T T	T -	T TA	T T	T T	T T	T T	A T	A A
1944	SEP 27	A A	T A	A A	A A	T T	T A	T -	A -	A -	A A*	A A	A A	A *	AT A	T T	A A	A A	AT *	T A	T T	T A	T T	T T	T T	T T	TA A	A -
1945	OCT 24	T T	T T	T T	T T	T TA	A A	A *	A A	A A	A A	A A*	A *	A A	A *	AT -	AT -	AT T	AT T	T T	T T	T T	T T	T T	A T	* T	T T	T T
1946	NOV 20	A T	A *	T T	TA T	T A	A T*	A T*	A A	A -	A -	A -	A A	A *	A *	A A	A A	A A	AT A	AT T	T T	T T	T T	T T	T T	* T	T T	T T
1947	DEC 17	T -	T T	T T	T T	T T	T T	TA *	A T	A T	A *	AT *	TA A	A A	A *	A A	A A	A A	T T*	T A	T *	T T	T T	T T	T T	A* TA	* T	* T
1948	1976 JAN 13	TA T	T T*	T TA	T T	TA A	TA T	AT T	A A	A T	A -	A -	A *	A A	A -	A -	A A	A -	A -	T T	T T	T T	T T	T T	T T	T T	TA T	T T
1949	FEB 9	T A	T A	T T	T -	T -	A T	T -	TA A	T A	AT A*	T T	A TA	A A	A A	A A	A A	T A	A T	T T	T T*	T A	T T	T T	T T	T *	T A	T TA	TA *
1950	MAR 7	T A	T A	T T	T T	T T	T T	T -	T TA	A A*	A A	TA A	A A	A A	A A	A A	A A	A *	T *	T AT	T T	T T	T T	T T*	T T	T T	T -	TA T	T T
1951	APR 3	T T	T T	T T	T T	T T	T T	T *	A A	A A	A A	A *	A A	A A	A A	A A	A A	A A	A A	AT A	TA T*	A T*	T T	T T	T *	AT T	TA A*	T T
1952	APR 30	T T	AT T	T T	T T	T T	T T	TA A	AT T*	A A	A -	A A	A A	A -	A -	A -	T T	A A	A A*	A TA	AT AT	T T	T T	T A	A A*	T T	A A	T -	T T
1953	MAY 27	T -	T T	T T	T T	T T	T T	T *	TA T	A A	A A	A A	A A	T A	T A	- T	* A	A A	A A	- T	T T	A T	T A	A T	T* A	A T	A A	A A	A A
1954	JUN 23	T T	T T	T T	T T	T T	AT A	T T	A A	AT A	A A	A TA	T* AT	A A	A A	A A	A A	A TA	A* T	T A	A A	A T	T T	T A	AT A*	A TA	AT AT	T A	A A	T A*
1955	JUL 20	T A	A T*	T T	A A	A A	A A	A A	A A	A A	A A	TA A*	T T	A A	A A	A T	T AA	T A	AT T*	TA TA	TA -	TA TA	A A	T T	T T	A A	A A	A A	
1966	AUG 16	A A	T T	T T	T T	A A	A A	TA T*	A A	A A	A A	A A	A A	A A	A A	A *	A A	AT A	A A	A A	A A	A -	AT -	AT -	AT -	TA -	A -	A -	A -
1967	SEP 12	A -	T -	AT -	A -	T -	T -	A -	A -	A -	A -	AT -	A -	AT -	AT -	T -	AT -	T -	T -	T -	A -	A A	A A	AT A	A A	A A	- T	A T	A
1968	OCT 9	AT A	T A*	T A	T A*	T A	T *	A A	A A	A A	TA A	T A*	A A	A T	A *	A -	T -	T -	* T	A T	TA T	AT A	AT A	A -					

T = towards the sun A = away from the sun * = effect doubtful or not discernible - = missing data

The table shows daily inferences of the polarity of the interplanetary magnetic field. The first half of the day is based principally on magnetograms produced by the magnetometer at the Vostok Antarctic Station of the USSR. The magnetometer of the U.S. Air Weather Service now operated at Thule by the Danish Meteorological Institute is used for the second half of the day.

SEPTEMBER 1976 DATA

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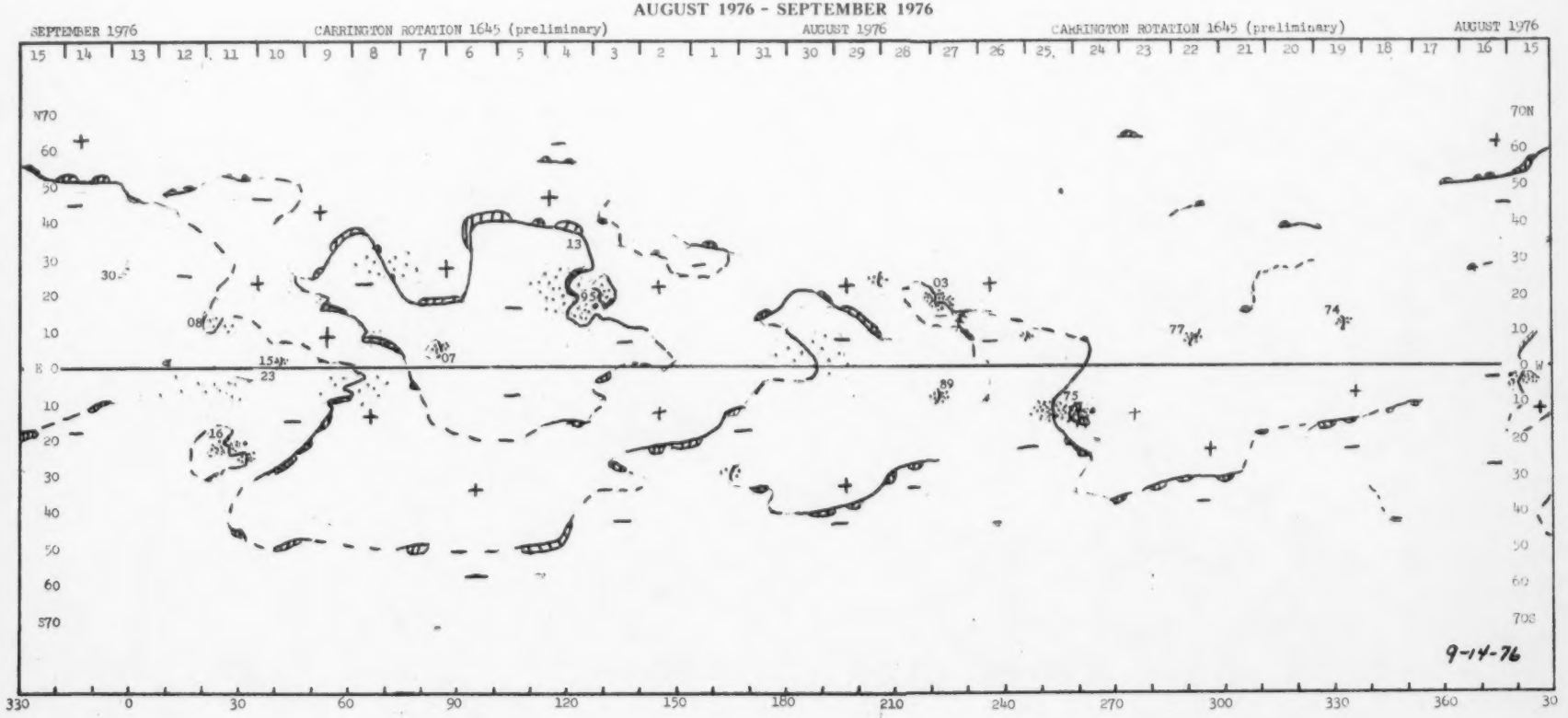
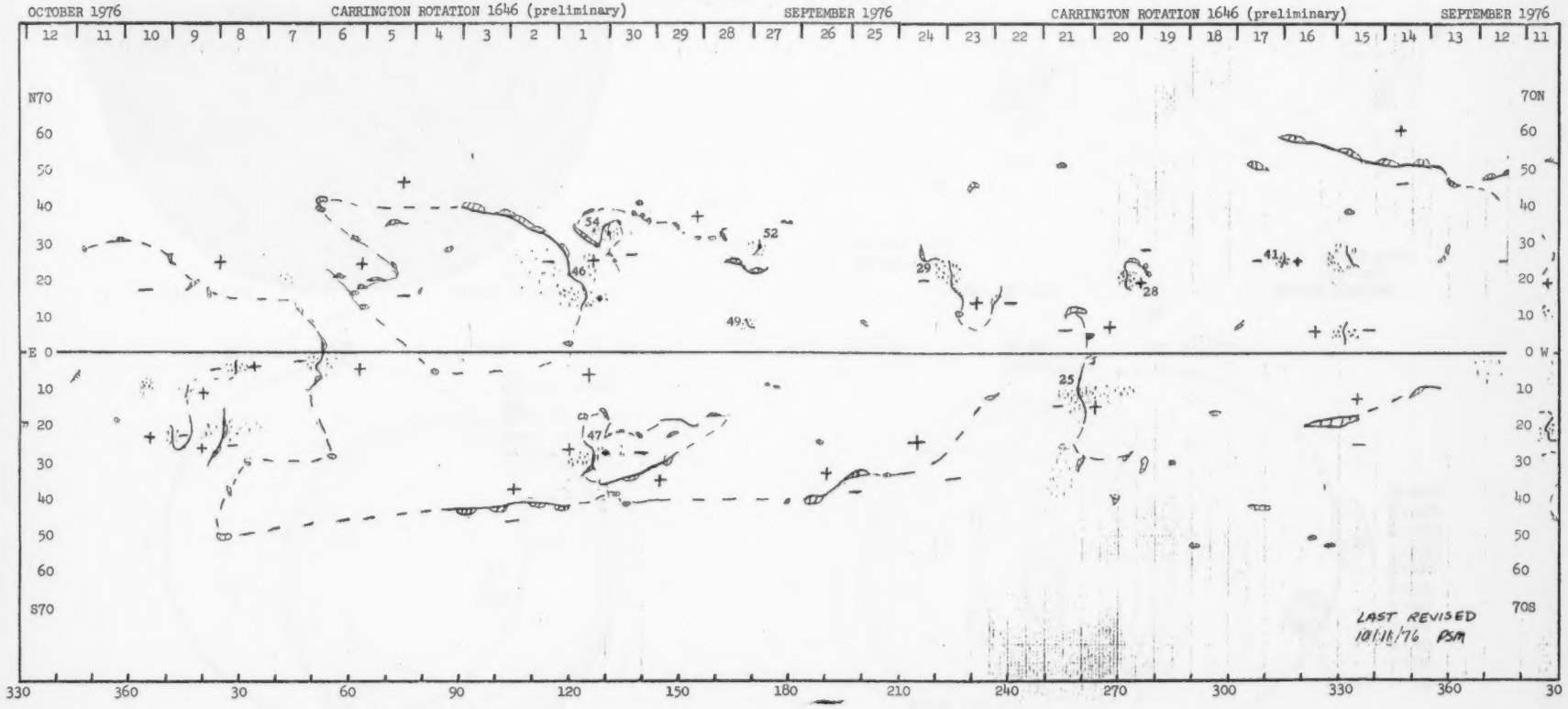
Hα SYNOPTIC CHART

AUGUST 1976 - SEPTEMBER 1976



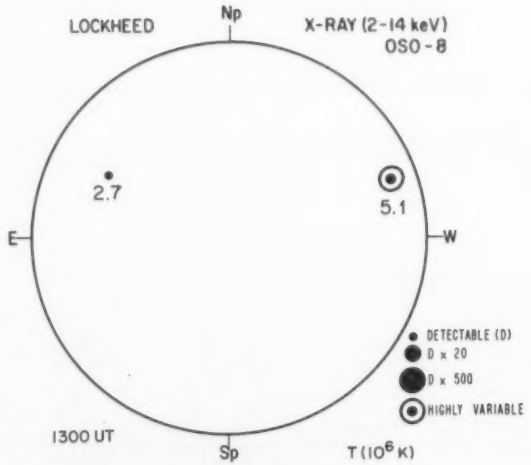
Hα SYNOPTIC CHART

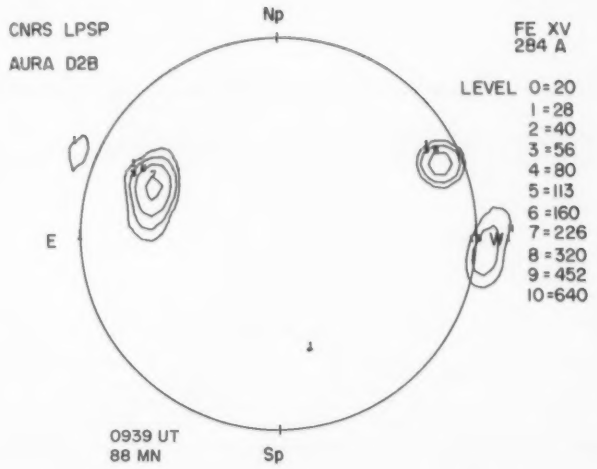
SEPTEMBER 1976 - OCTOBER 1976

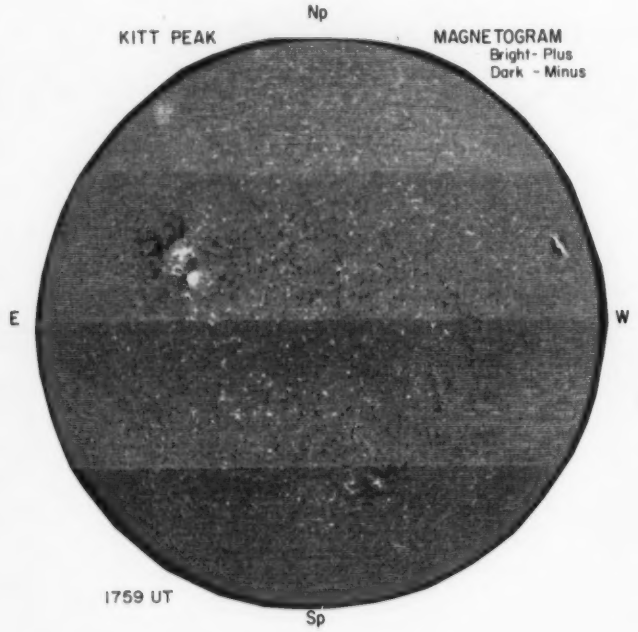


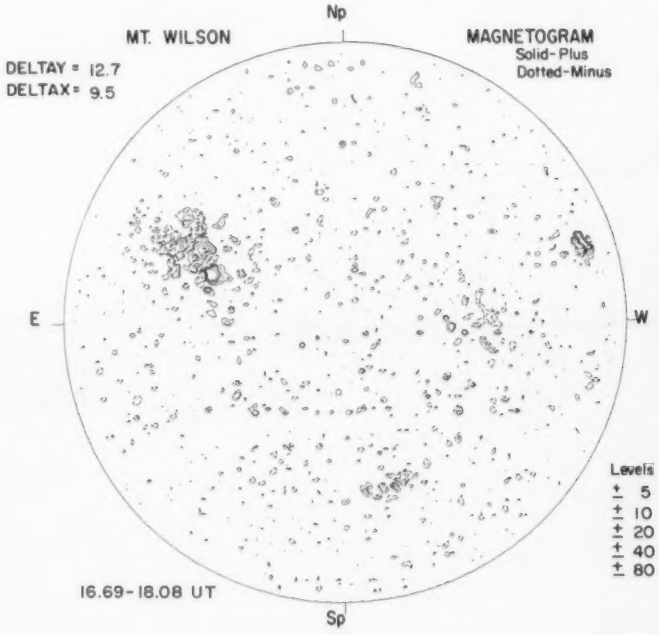
25 Sep 76

SEPTEMBER 1, 1976 (P = 21.14, B_o = 7.20, L_o = 166.73)



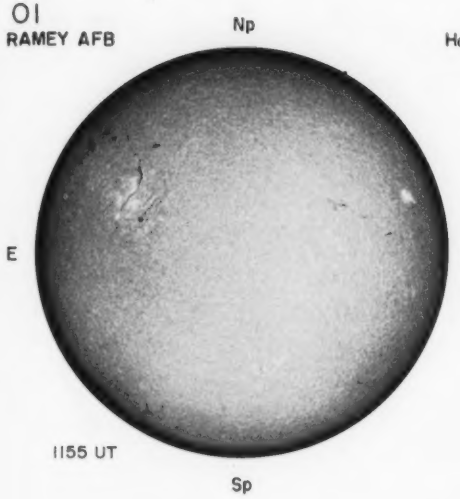




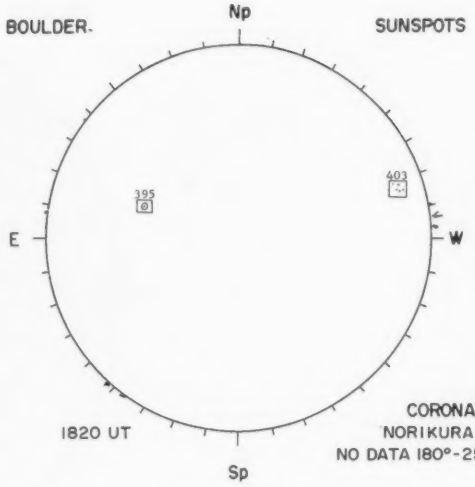


01

RAMEY AFB

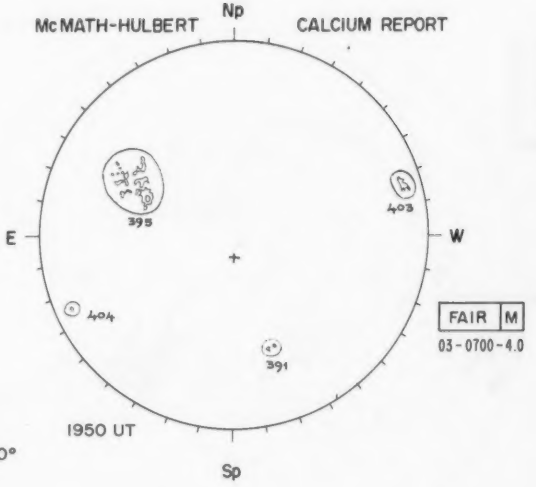


BOULDER- SUNSPOTS



CORONA
NORIKURA
NO DATA 180°-250°

McMATH-HULBERT CALCIUM REPORT



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03-0700-4.0

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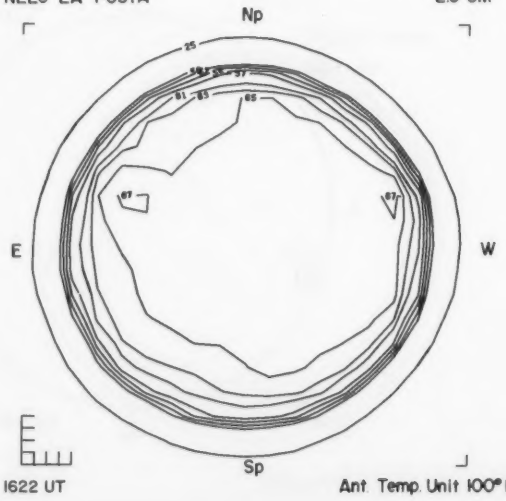
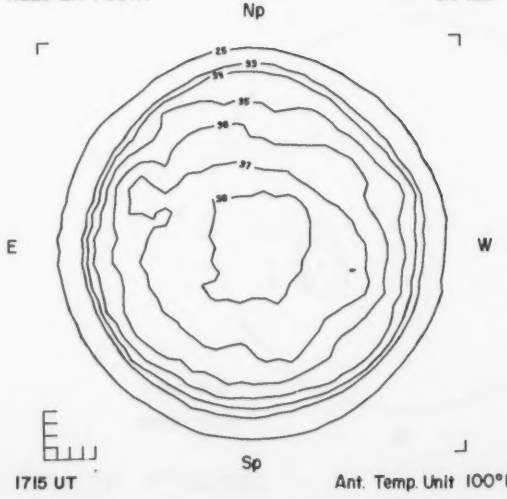


Ant. Temp. Unit 100°K

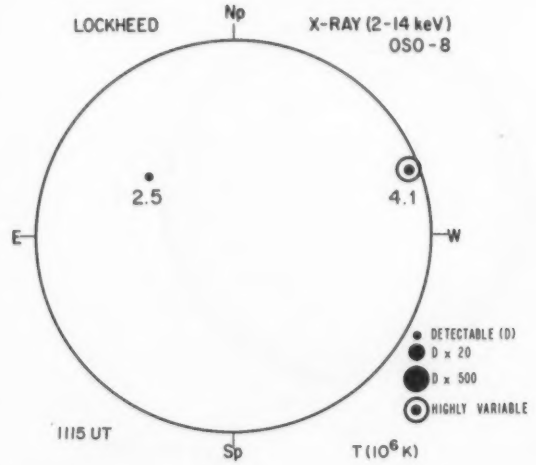
NELC LA POSTA 8.6 MM

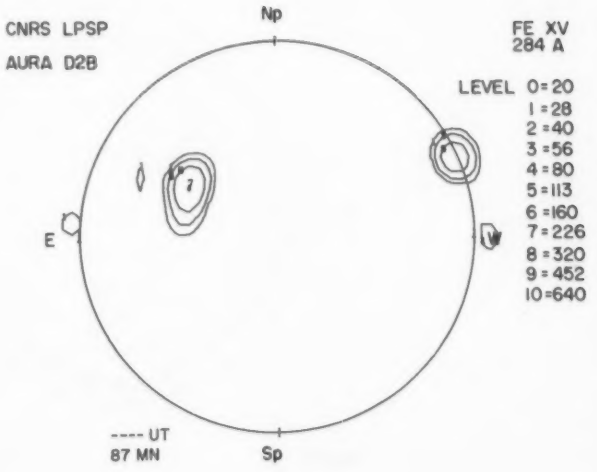


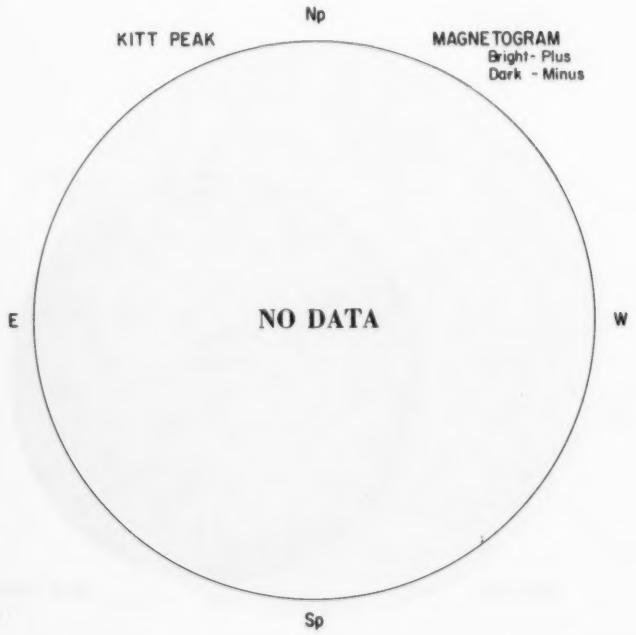
Ant. Temp. Unit 100°K

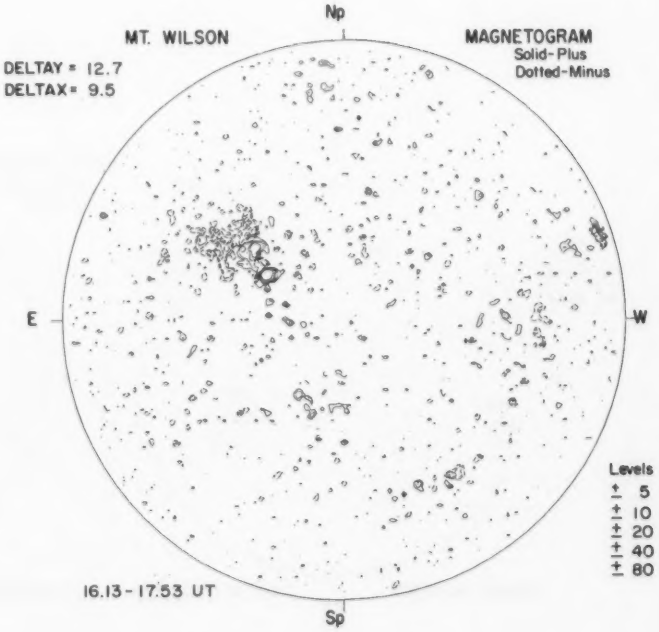
27 Sep 76

SEPTEMBER 2, 1976 (P = 21.39, B_0 = 7.21, L_0 = 153.52)



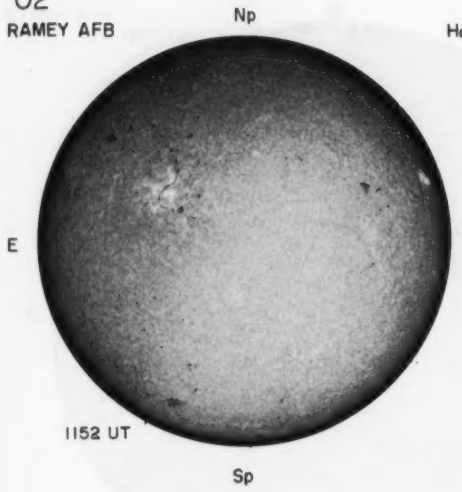




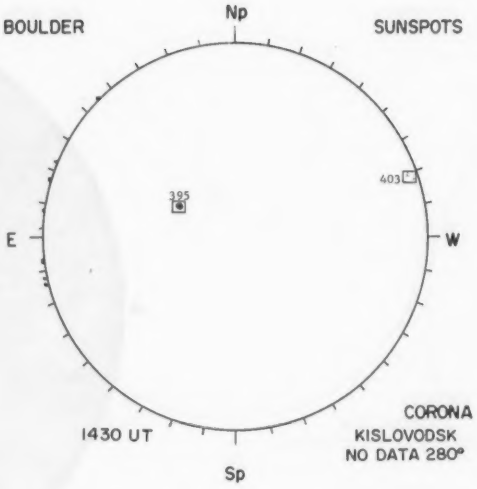


02

RAMEY AFB



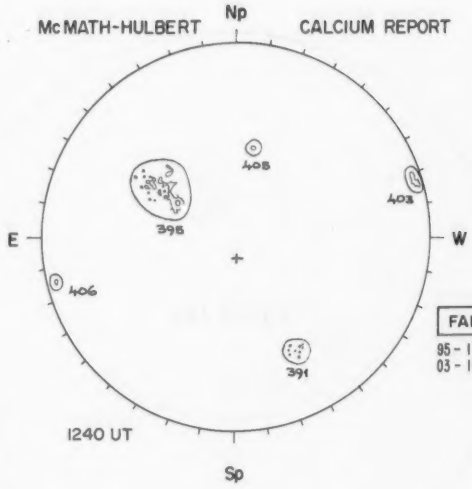
Hα BOULDER



SUNSPOTS

CORONA
KISLOVODSK
NO DATA 280°

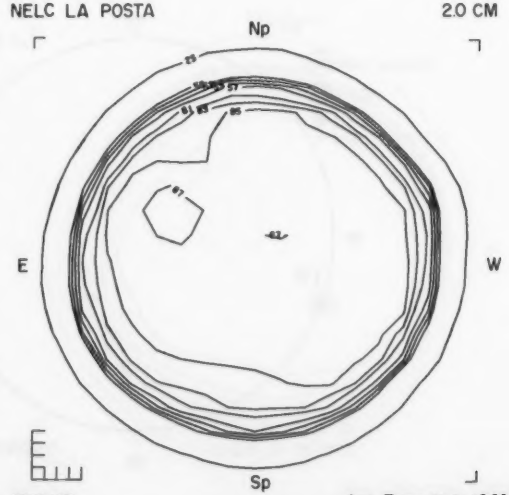
McMATH-HULBERT



CALCIUM REPORT

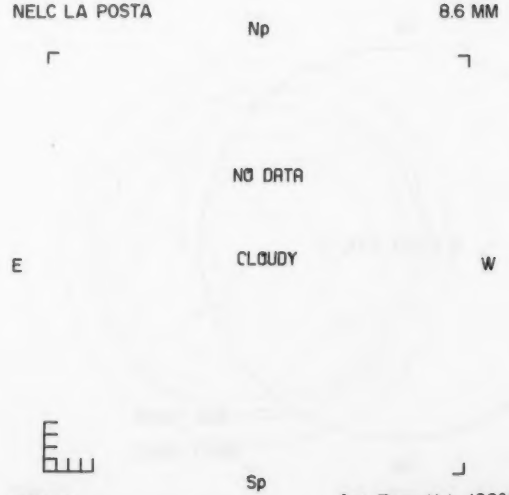
FAIR D
95 - 1700 - 2.5
03 - 1000 - 4.0

NELC LA POSTA 2.0 CM



Ant. Temp. Unit 100°K

NELC LA POSTA 8.6 MM



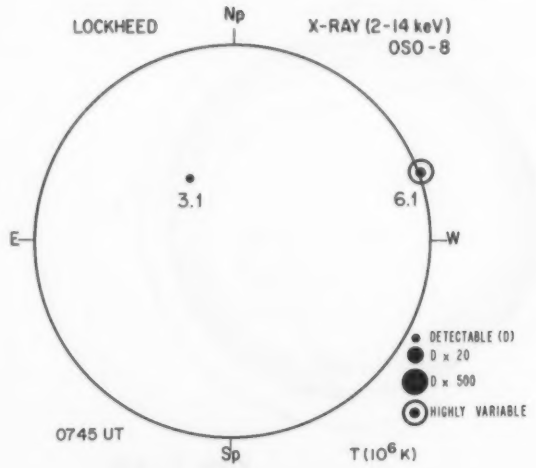
NO DATA

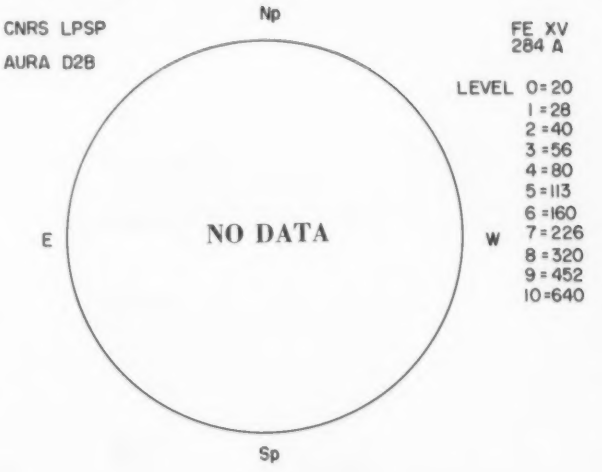
CLOUDY

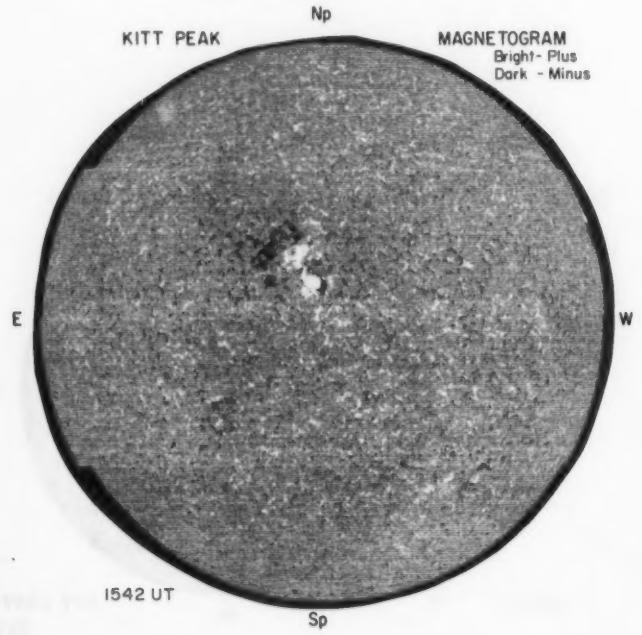
Ant. Temp. Unit 100°K

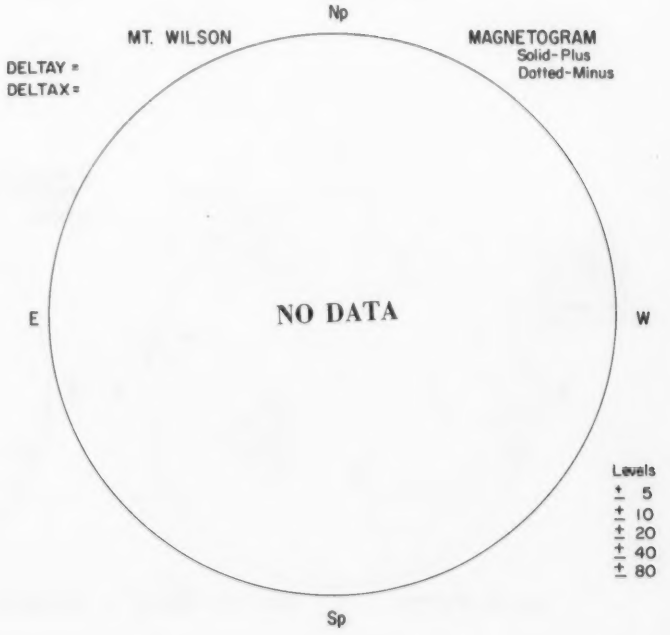
29
Sep 76

SEPTEMBER 3, 1976 (P = 21.63, B_0 = 7.22, L_0 = 140.31)



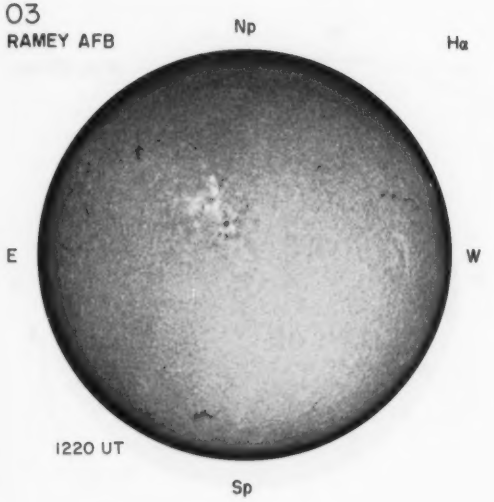




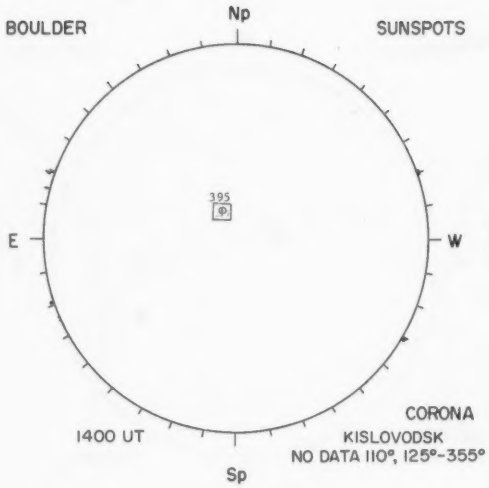


03

RAMEY AFB



BOULDER

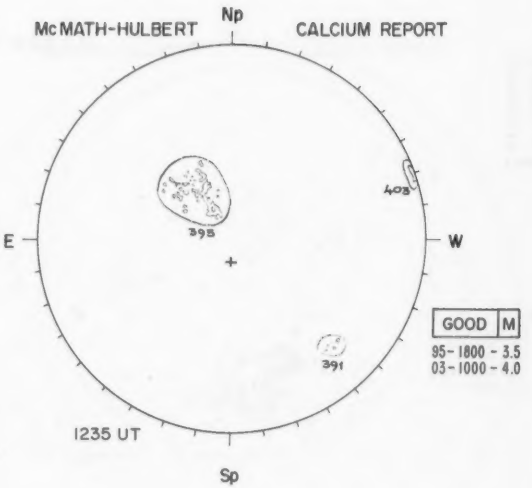


CORONA

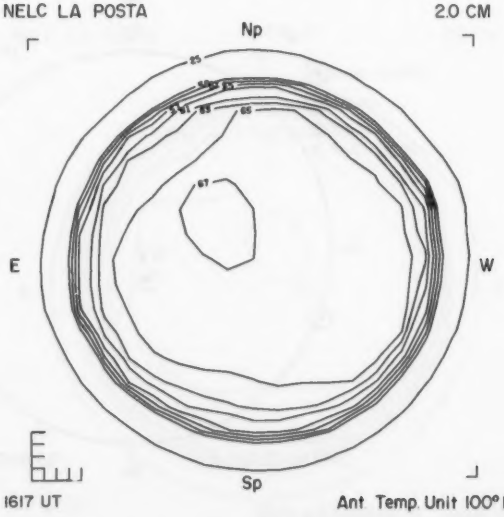
KISLOVODSK

NO DATA 110°, 125°-355°

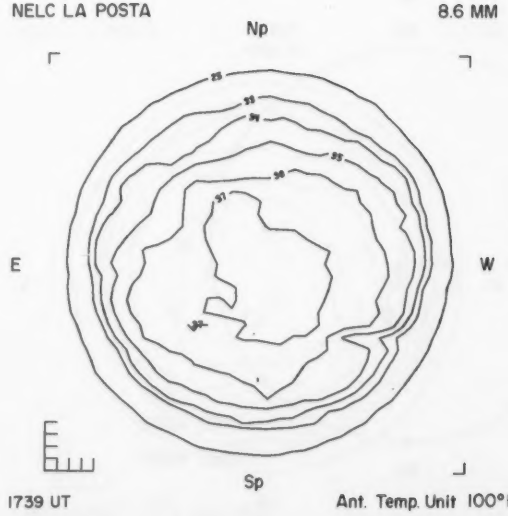
McMATH-HULBERT



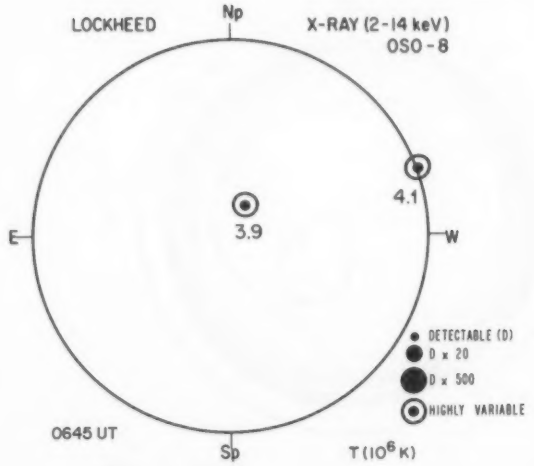
NELC LA POSTA

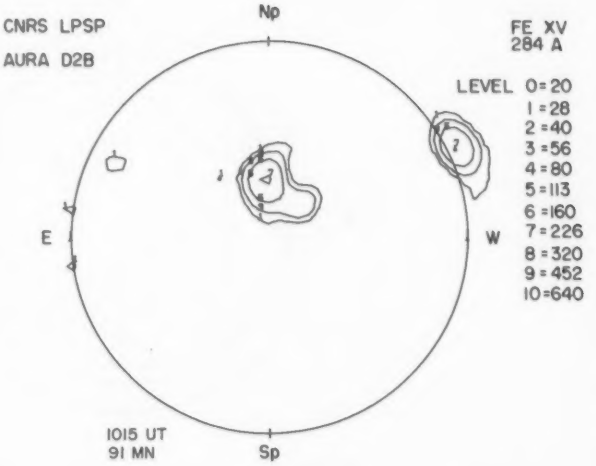


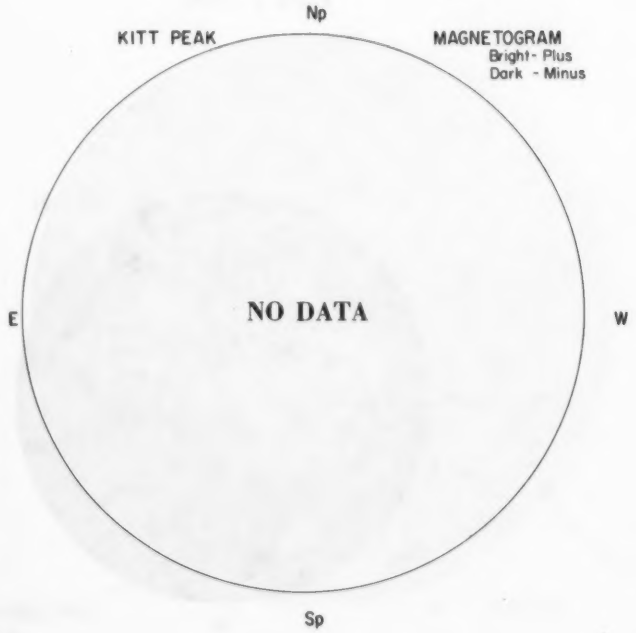
NELC LA POSTA

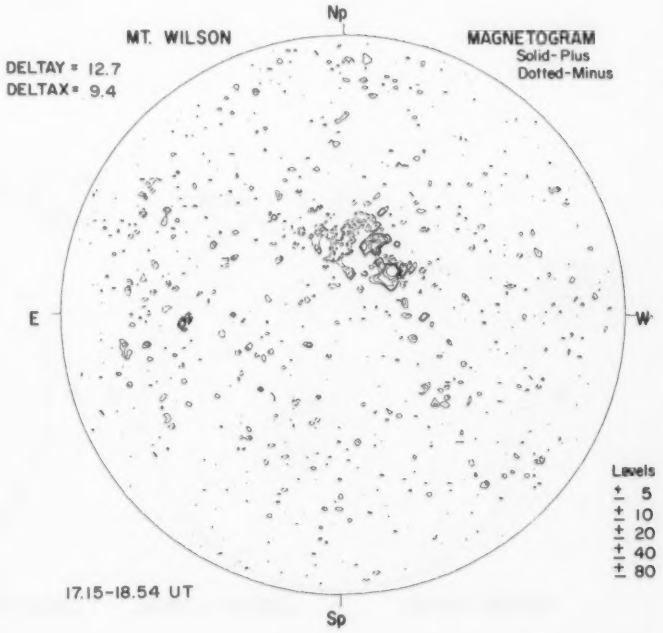


SEPTEMBER 4, 1976 (P = 21.87, B_o = 7.23, L_o = 127.10)



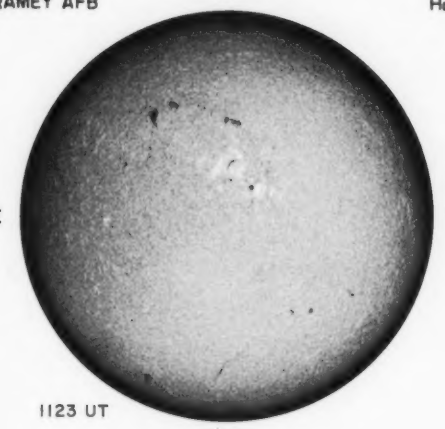






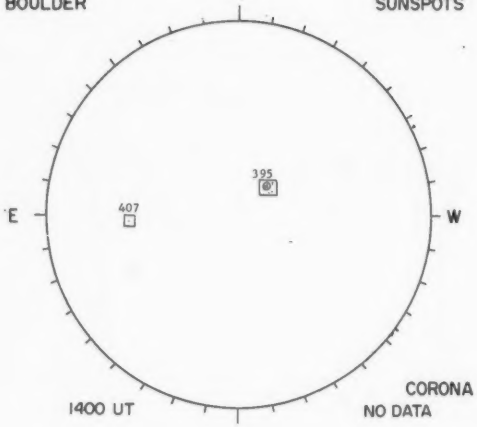
04

RAMEY AFB Hα



1123 UT

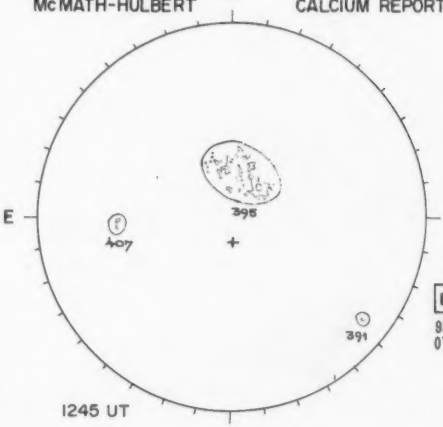
BOULDER SUNSPOTS



1400 UT

CORONA
NO DATA

McMATH-HULBERT CALCIUM REPORT



1245 UT

EXCEL | M
95 - 1700 - 3.0
07 - 0200 - 2.5

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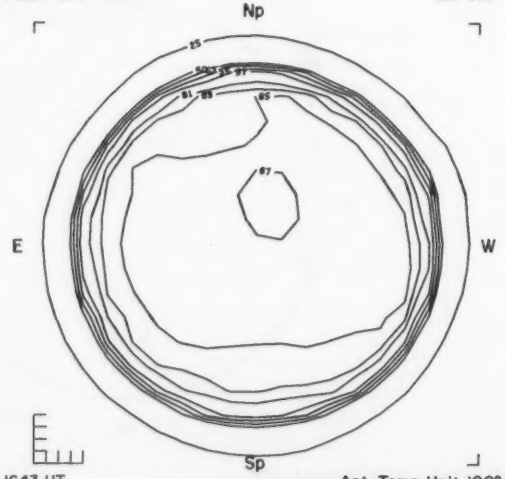
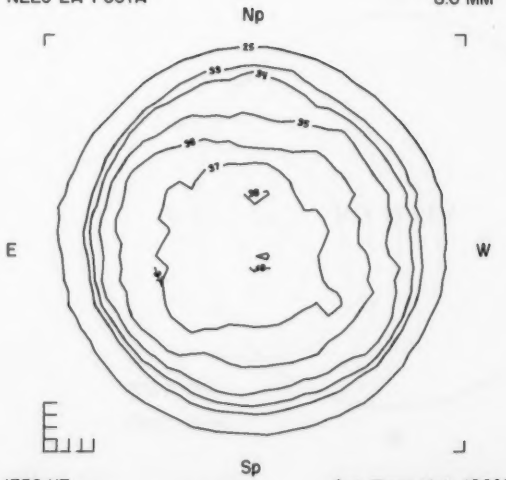


1643 UT

Ant. Temp. Unit 100°K

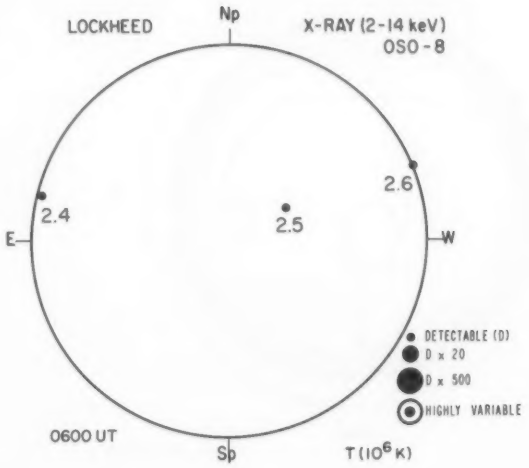
NELC LA POSTA 8.6 MM

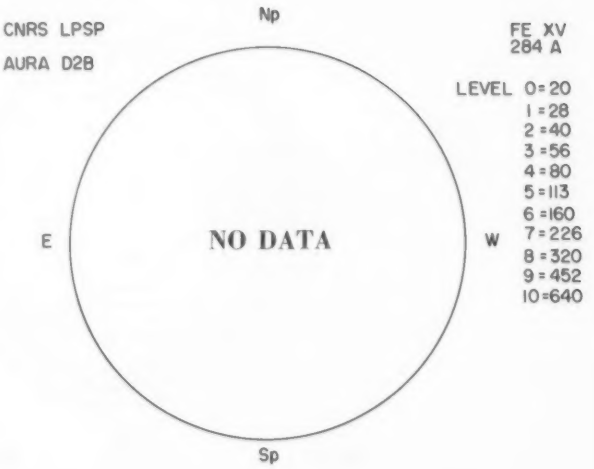


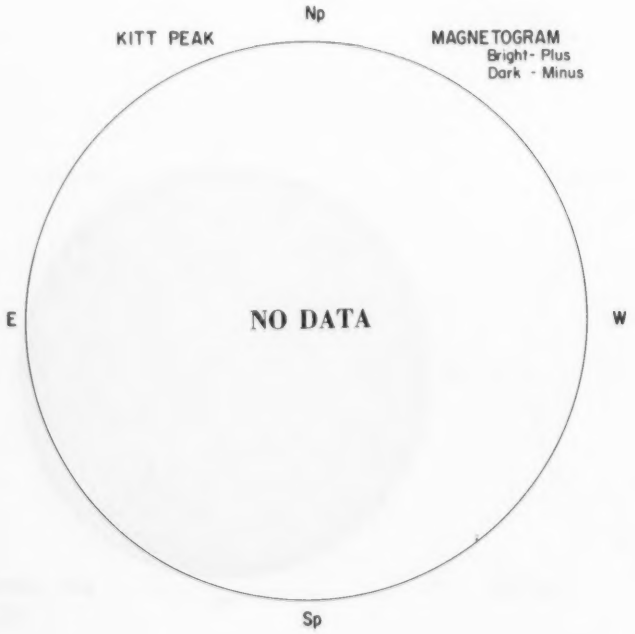
1738 UT

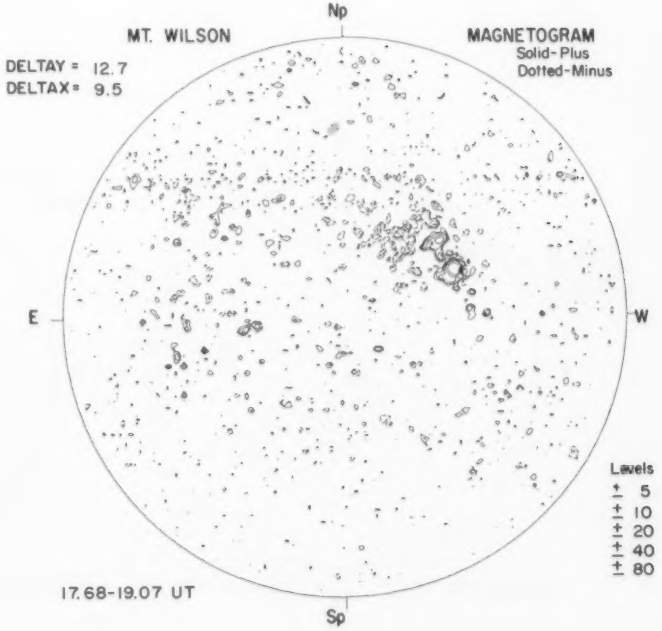
Ant. Temp. Unit 100°K

SEPTEMBER 5, 1976 (P = 22.11, B_0 = 7.24, L_0 = 113.90)



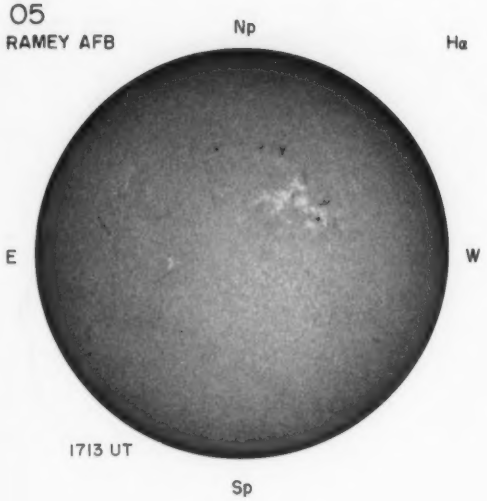




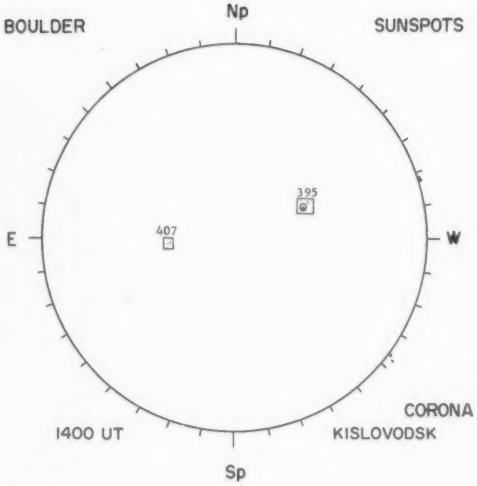


05

RAMEY AFB



Hα BOULDER



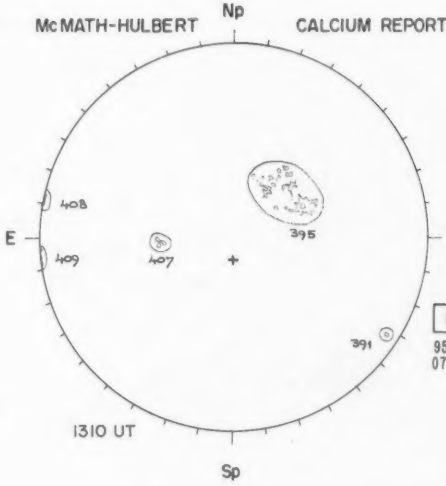
SUNSPOTS

CORONA

KISLOVODSK

McMATH-HULBERT

CALCIUM REPORT

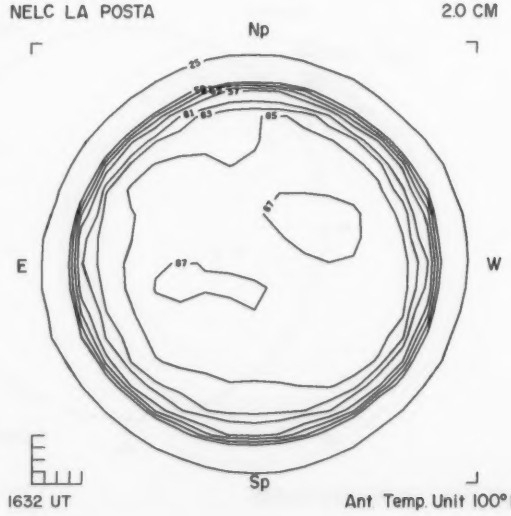


FAIR	M

95 - 1700 - 2.5
07 - 0300 - 2.5

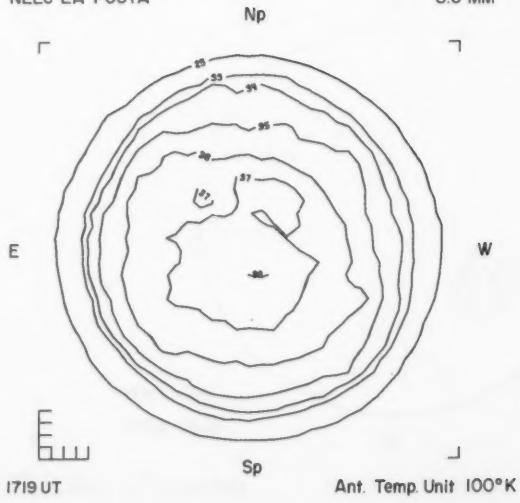
NELC LA POSTA

2.0 CM

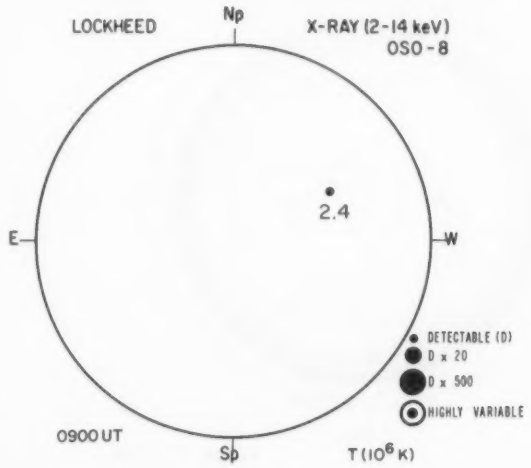


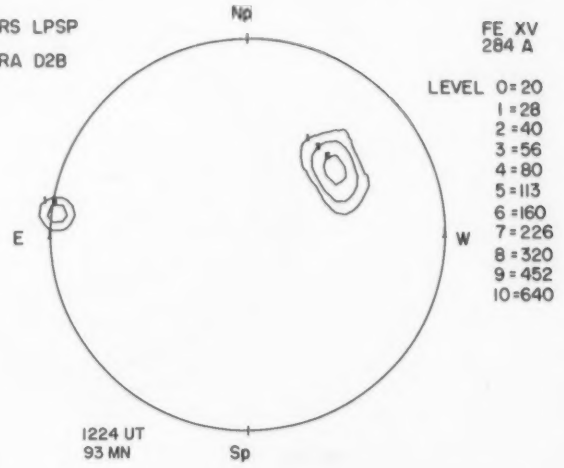
NELC LA POSTA

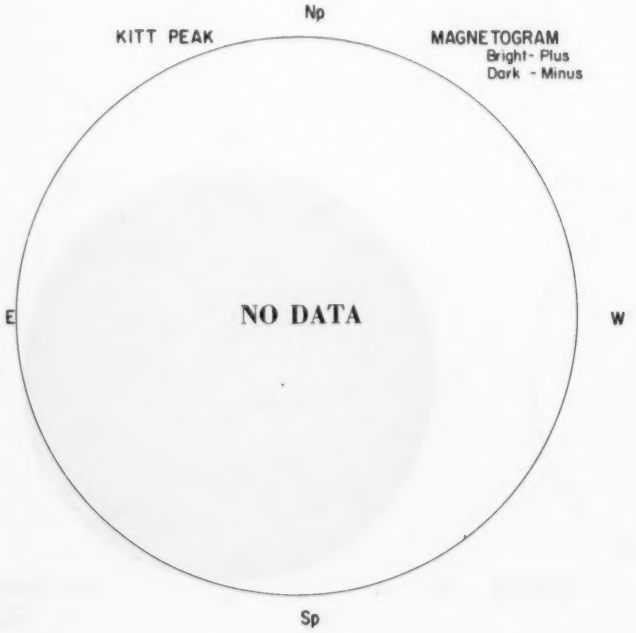
8.6 MM

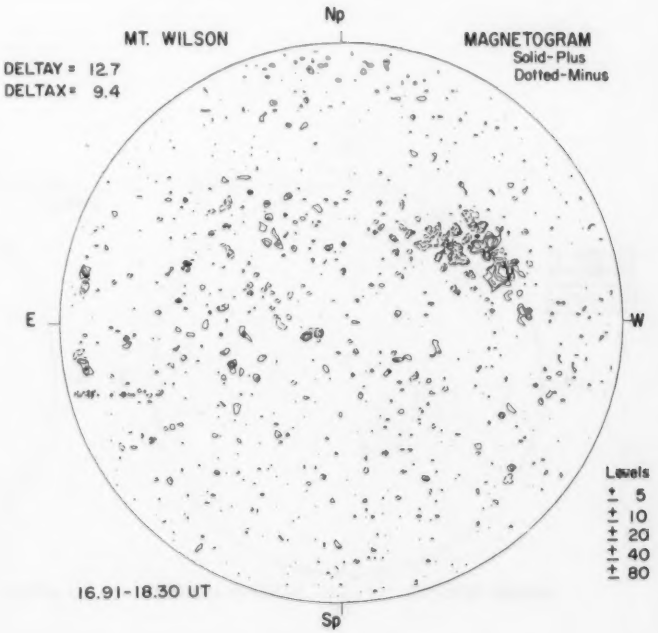


SEPTEMBER 6, 1976 (P = 22.33, B_o = 7.25, L_o = 100.69)









06

RAMEY AFB

Np

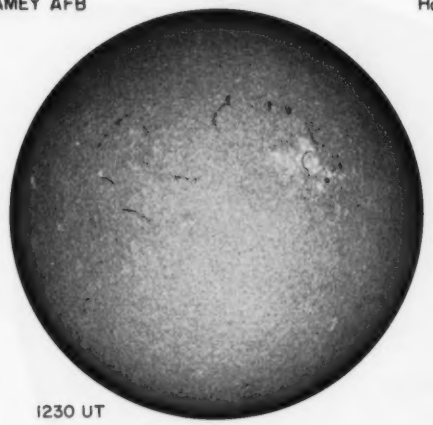
Hα

E

W

Sp

1230 UT



BOULDER

SUNSPOTS

Np

E

W

Sp

395

1345 UT

NO DATA

CORONA

McMATH-HULBERT

CALCIUM REPORT

Np

E

W

Sp

408

410

407

395

415

409

412

1410 UT

GOOD | M

95- 1700 - 2.5

08 - 0400 - 2.5

NELC LA POSTA

2.0 CM

Np

E

W

Sp

1615 UT

Ant. Temp. Unit 100°K

NELC LA POSTA

8.6 MM

Np

NO DATA

CALIBRATION

E

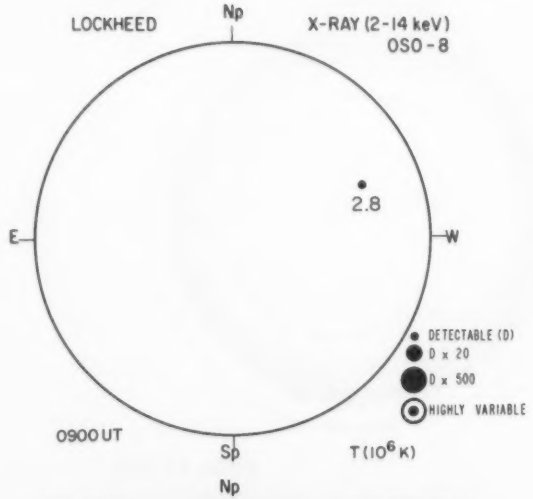
W

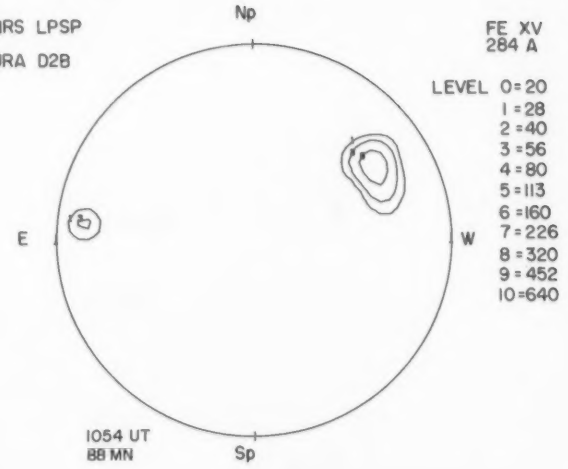
Sp

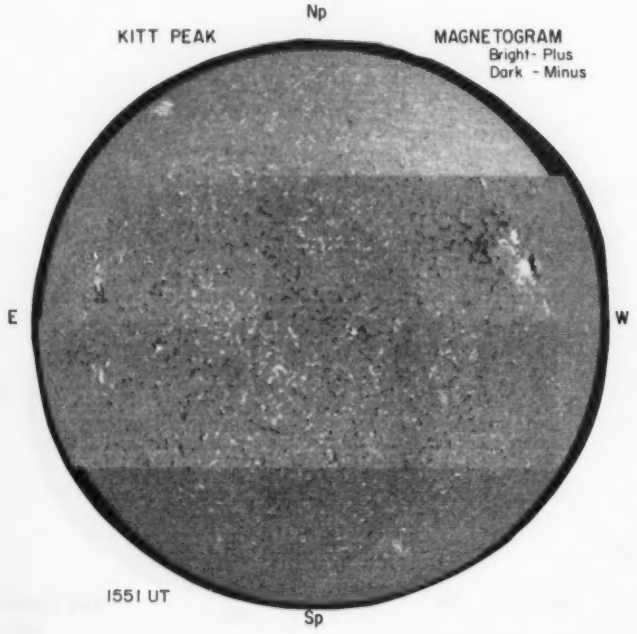
1711 UT

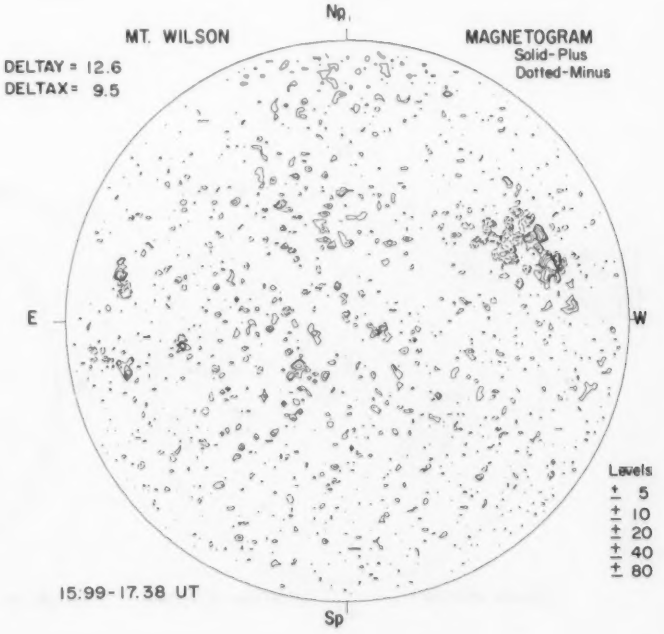
Ant. Temp. Unit 100°K

SEPTEMBER 7, 1976 (P = 22.56, B_0 = 7.25, L_0 = 87.48)



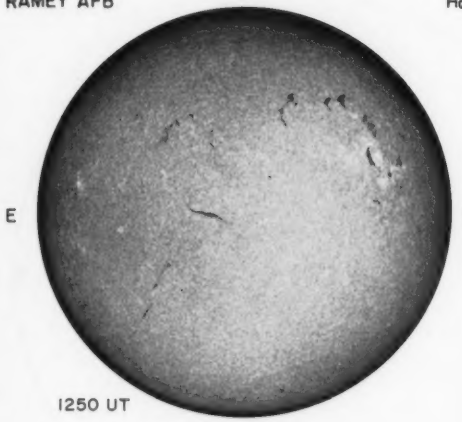




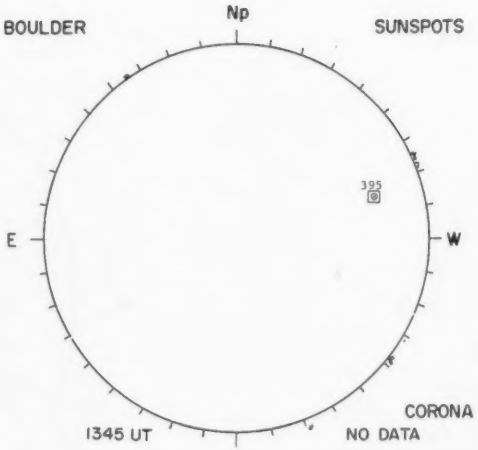


07

RAMEY AFB



Hα BOULDER



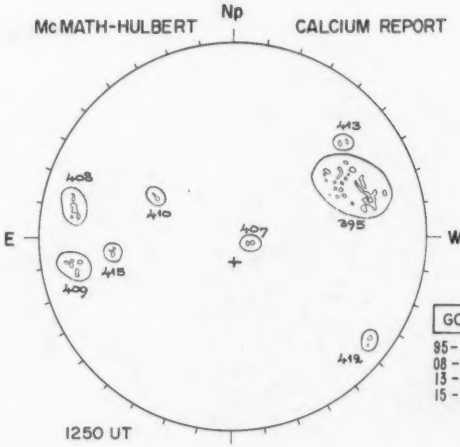
SUNSPOTS

CORONA

NO DATA

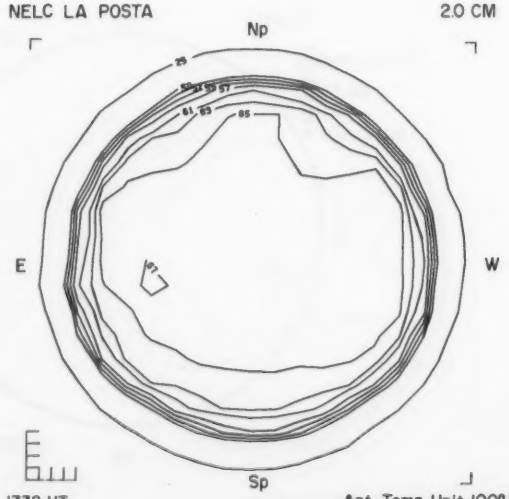
McMATH-HULBERT

CALCIUM REPORT

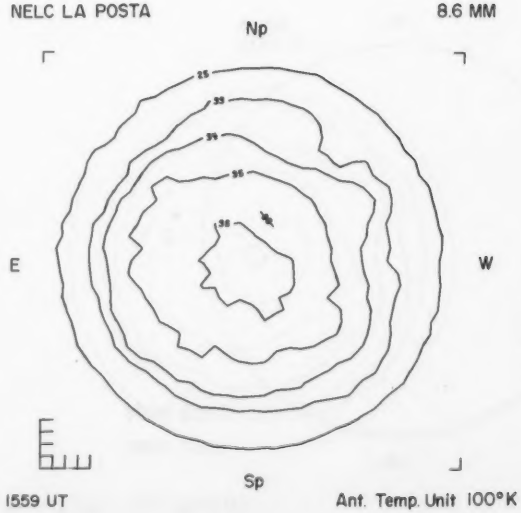


GOOD	S
95 - 1900 - 3.0	
08 - 0500 - 2.5	
13 - 0200 - 2.5	
15 - 0200 - 2.5	

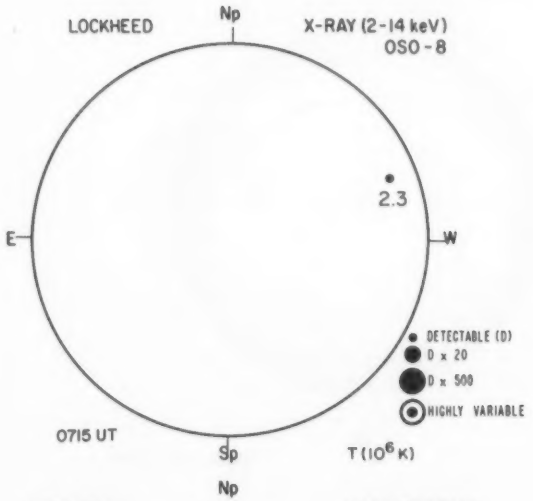
NELC LA POSTA 2.0 CM

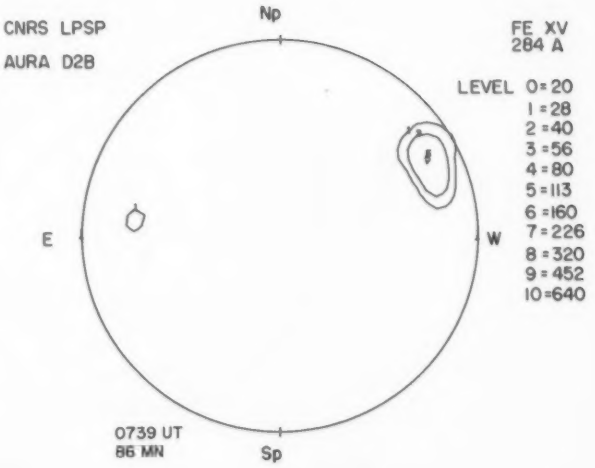


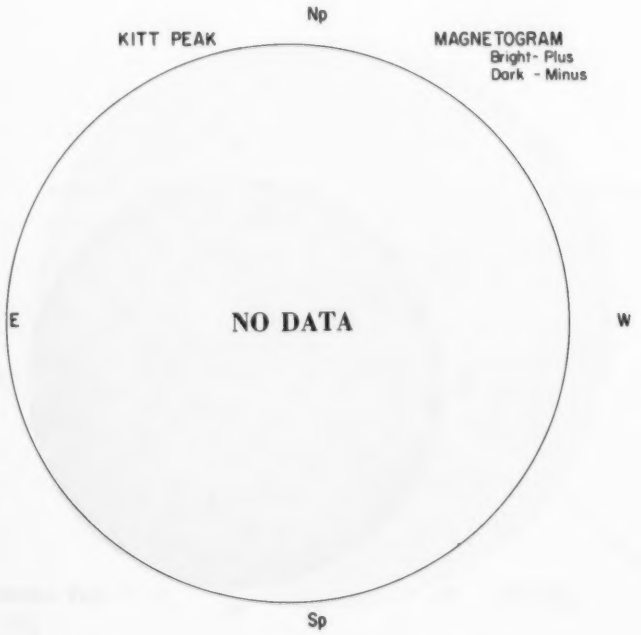
NELC LA POSTA 8.6 MM

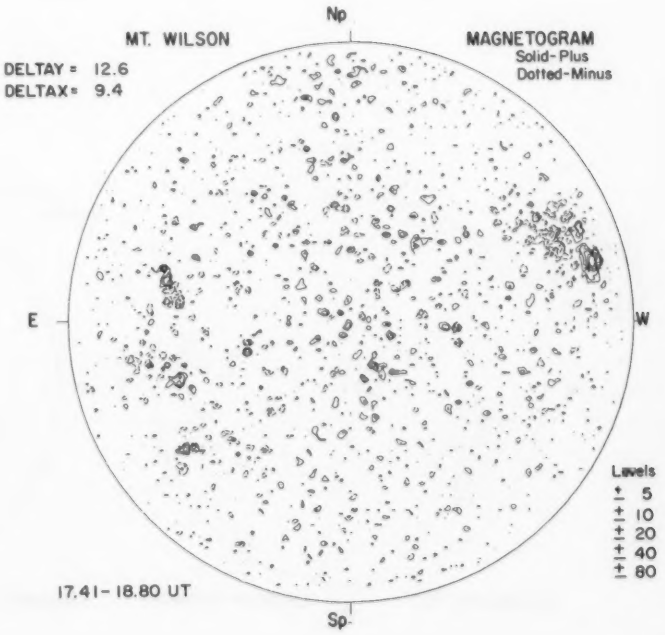


SEPTEMBER 8, 1976 (P = 22.77, B_o = 7.25, L_o = 74.28)



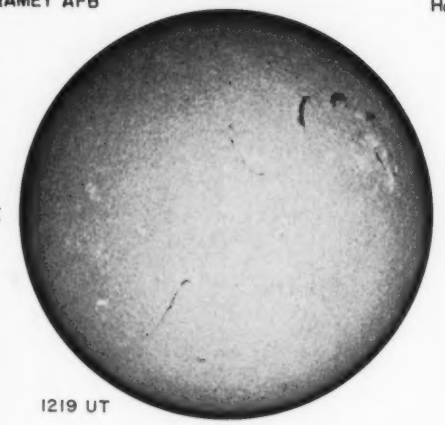






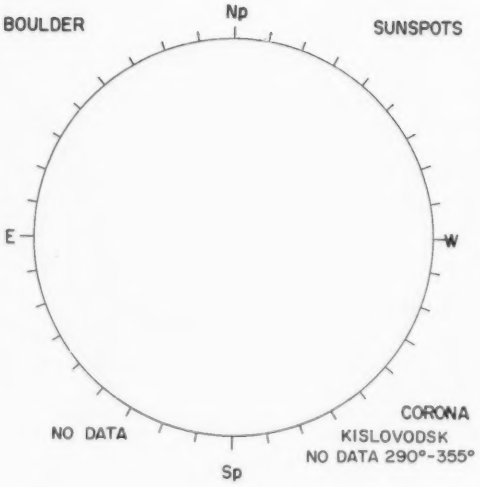
08

RAMEY AFB



Hα

BOULDER



SUNSPOTS

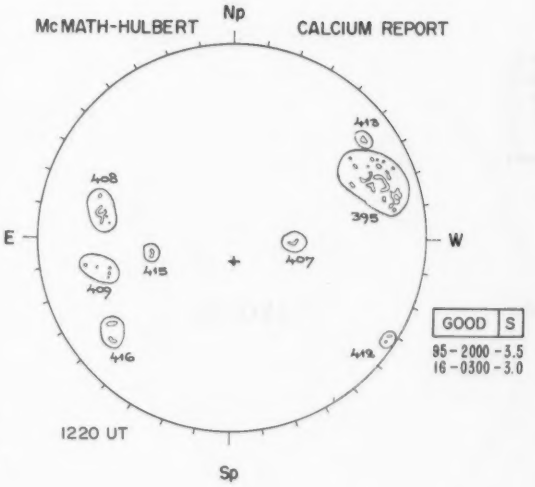
CORONA

KISLOVODSK

NO DATA 290°-355°

McMATH-HULBERT

CALCIUM REPORT



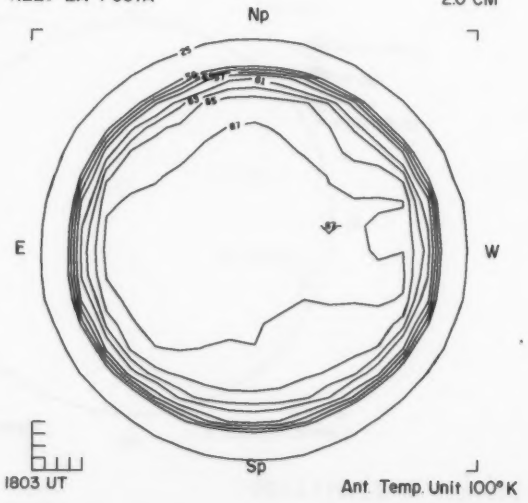
GOOD	S

85 - 2000 - 3.5

16 - 0300 - 3.0

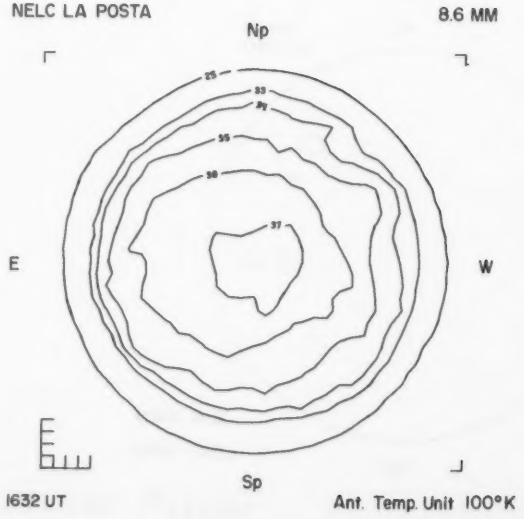
NELC LA POSTA

2.0 CM

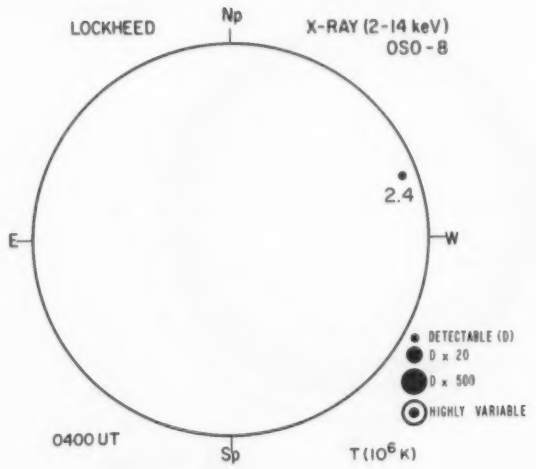


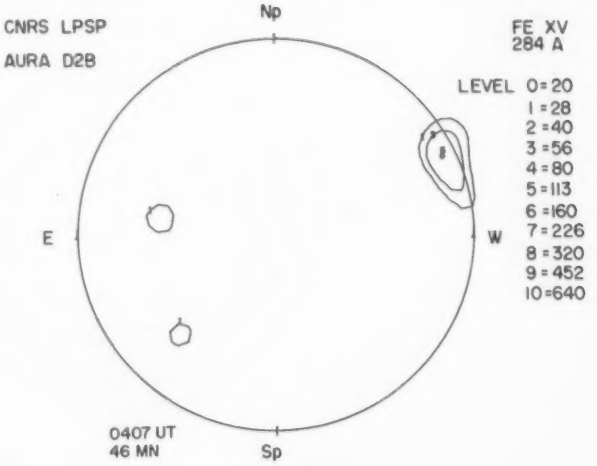
NELC LA POSTA

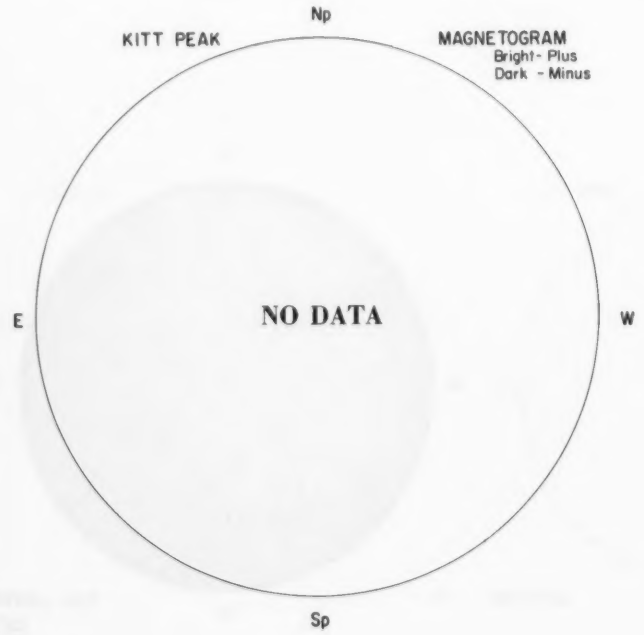
8.6 MM

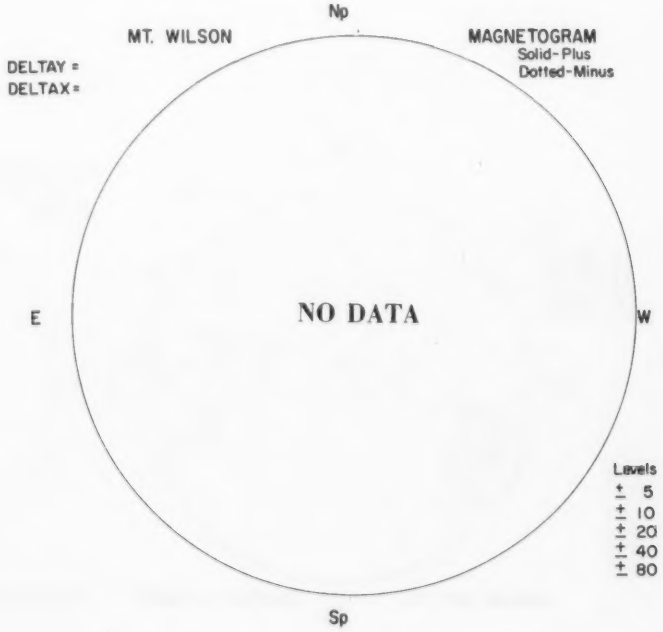


SEPTEMBER 9, 1976 (P = 22.98, B_0 = 7.25, L_0 = 61.07)



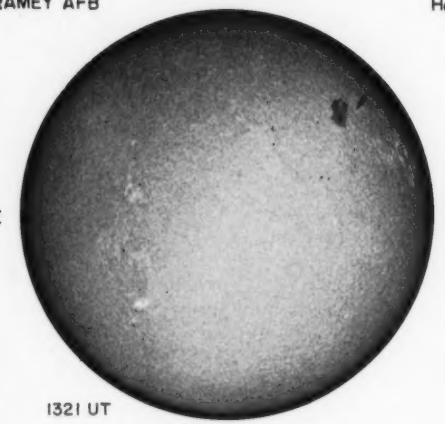






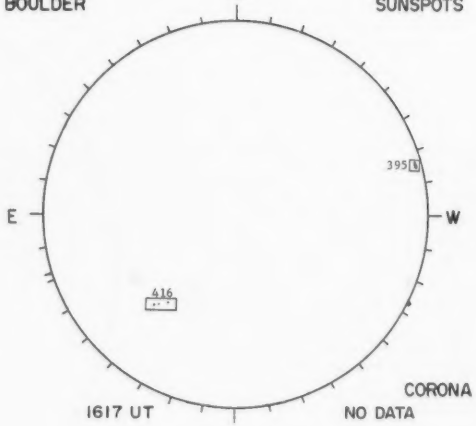
09

RAMEY AFB



Hα

BOULDER

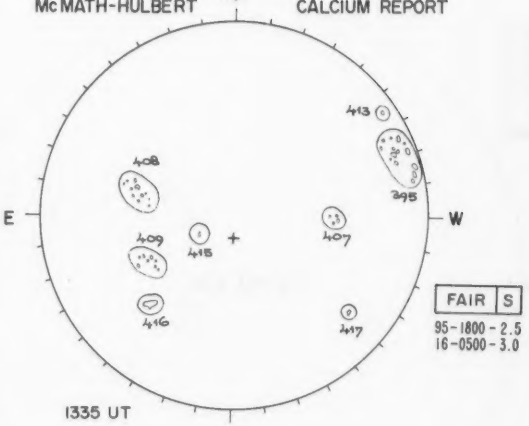


SUNSPOTS

CORONA

NO DATA

McMATH-HULBERT



CALCIUM REPORT

FAIR | S

95-1800 - 2.5

16-0500 - 3.0

NELC LA POSTA

Np

2.0 CM

NO DATA

E

WEATHER

W

Sp

---- UT

Ant. Temp. Unit 100°K

NELC LA POSTA

Np

8.6 MM

NO DATA

E

WEATHER

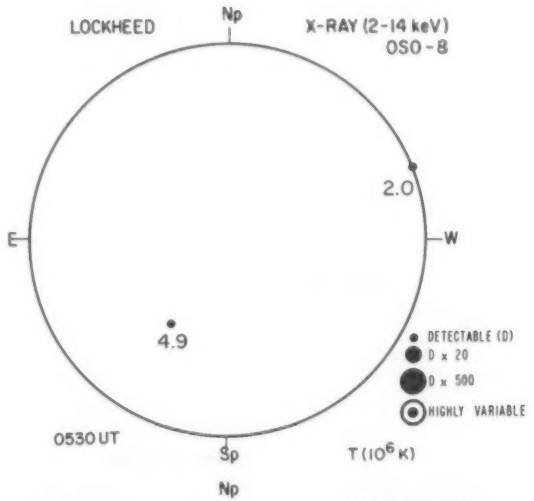
W

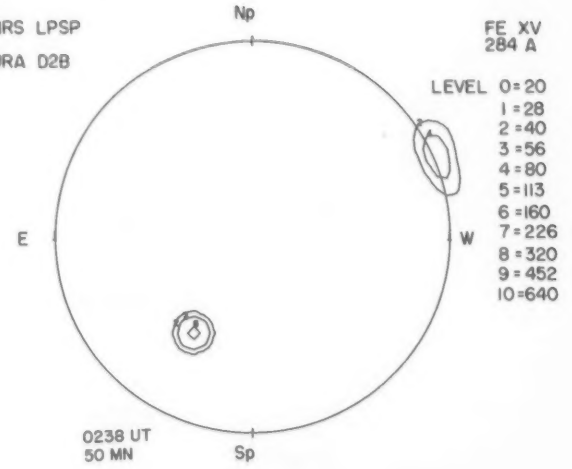
Sp

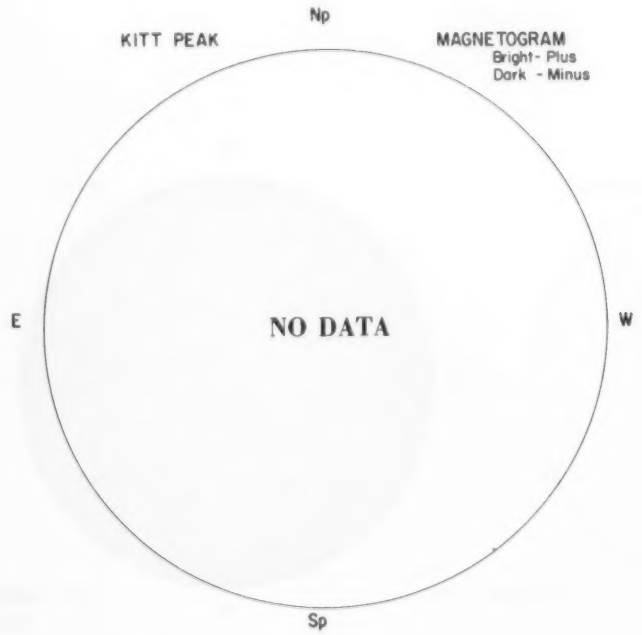
---- UT

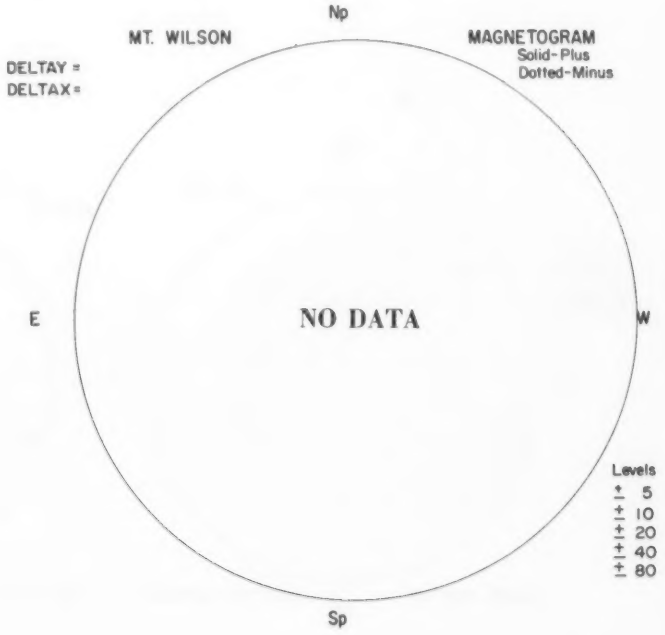
Ant. Temp. Unit 100°K

SEPTEMBER 10, 1976 (P = 23.19, B_0 = 7.25, L_0 = 47.87)



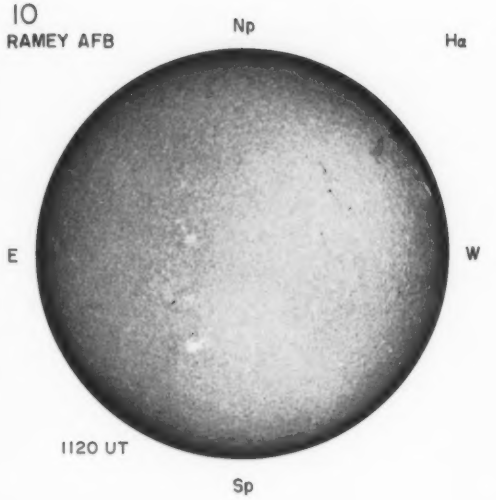






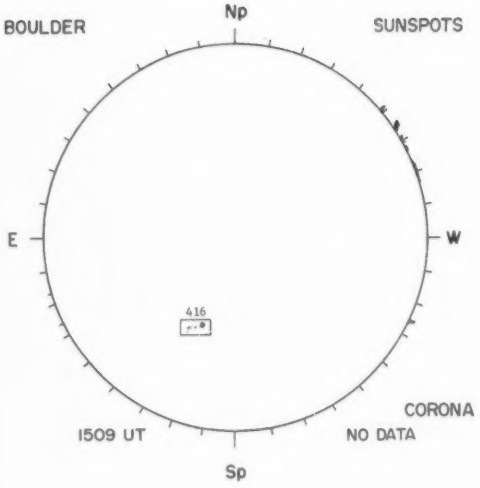
10

RAMEY AFB



Hα

BOULDER

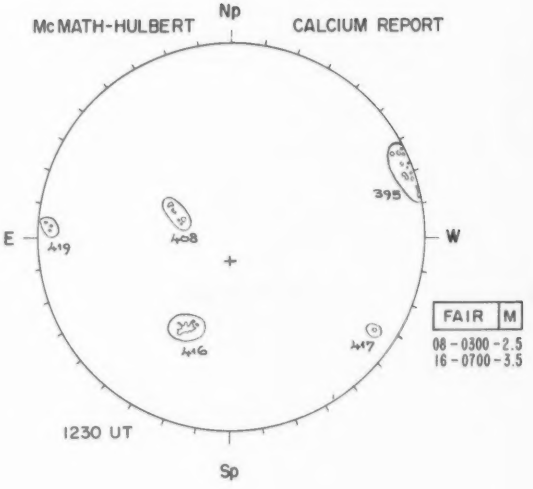


SUNSPOTS

CORONA

NO DATA

McMATH-HULBERT



CALCIUM REPORT

FAIR	M

08 - 0300 - 2.5
16 - 0700 - 3.5

NELC LA POSTA

Np

E

W

Sp

----UT

2.0 CM

NO DATA

WEATHER

Ant. Temp. Unit 100°K

NELC LA POSTA

Np

E

W

Sp

----UT

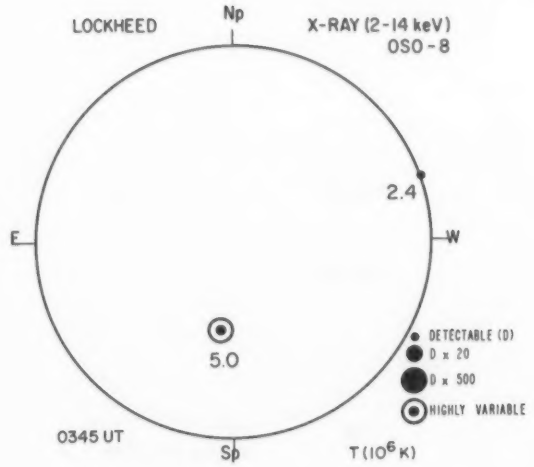
8.6 MM

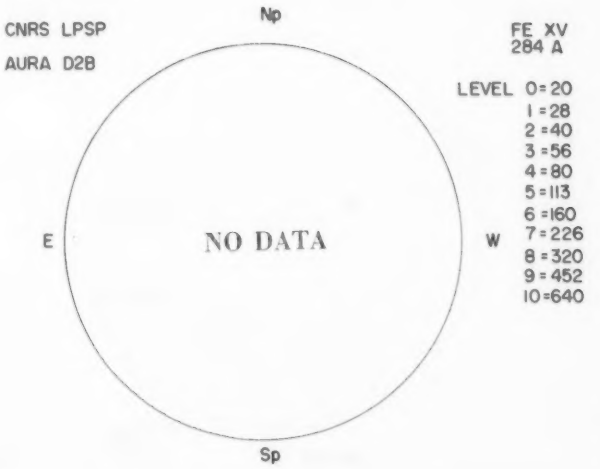
NO DATA

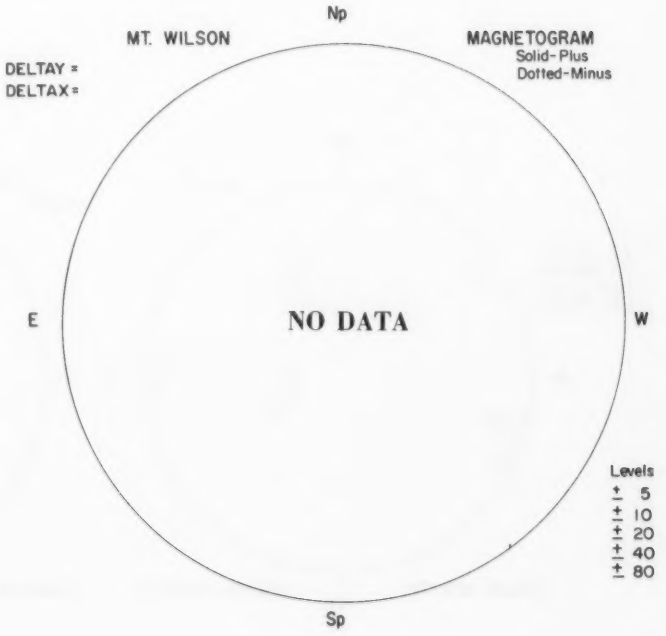
WEATHER

Ant. Temp. Unit 100°K

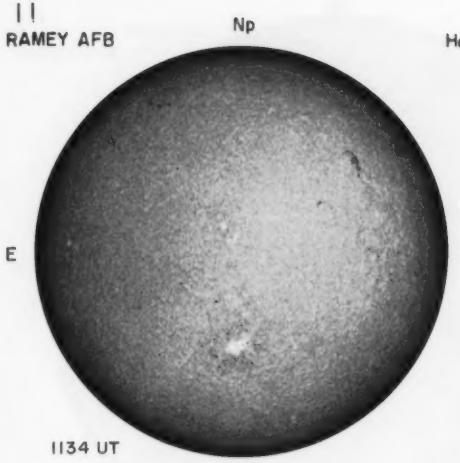
SEPTEMBER 11, 1976 (P = 23.38, B_0 = 7.24, L_0 = 34.66)





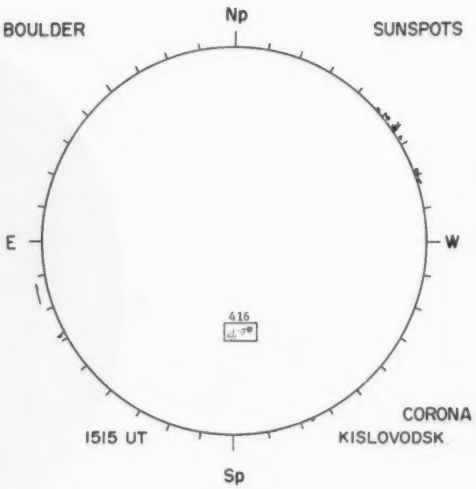


RAMEY AFB



1134 UT

Hα BOULDER



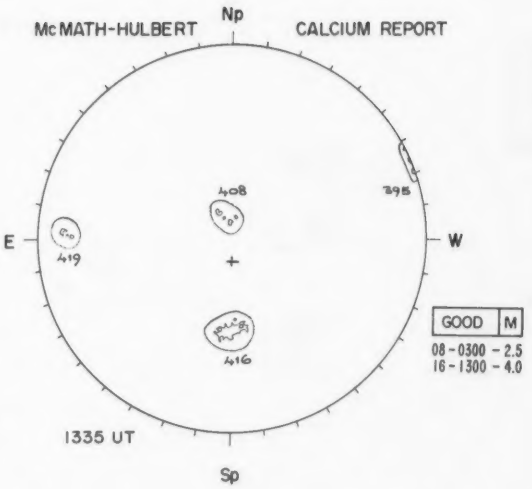
1515 UT

SUNSPOTS

CORONA

KISLOVODSK

McMATH-HULBERT



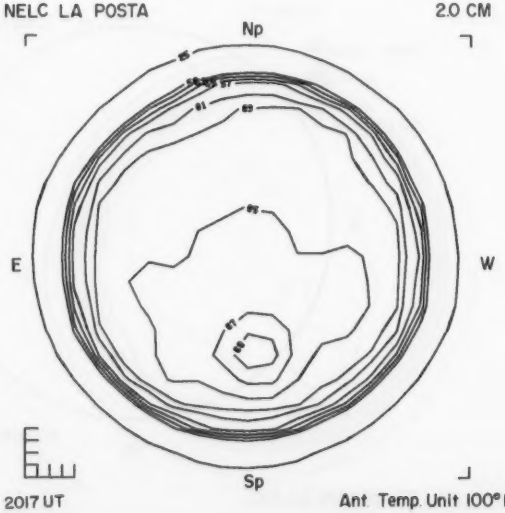
1335 UT

CALCIUM REPORT

GOOD	M

08 - 0300 - 2.5
16 - 1300 - 4.0

NELC LA POSTA 2.0 CM



2017 UT

Ant. Temp. Unit 100°K

NELC LA POSTA 8.6 MM

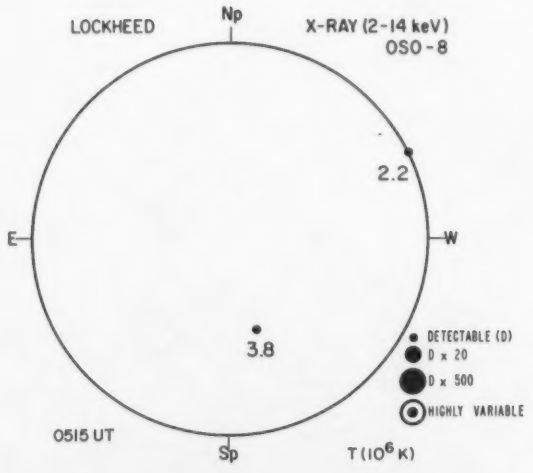
NO DATA

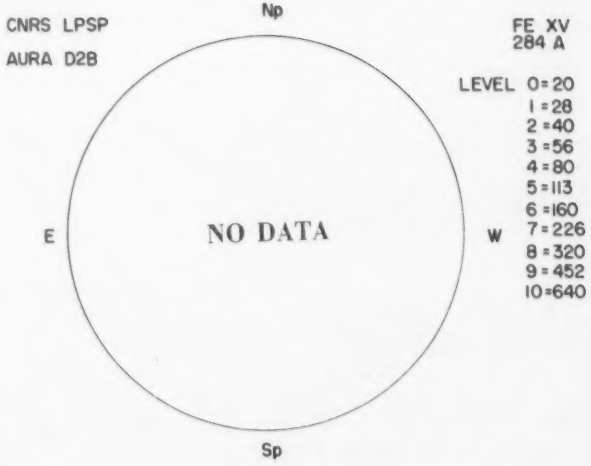
WEATHER

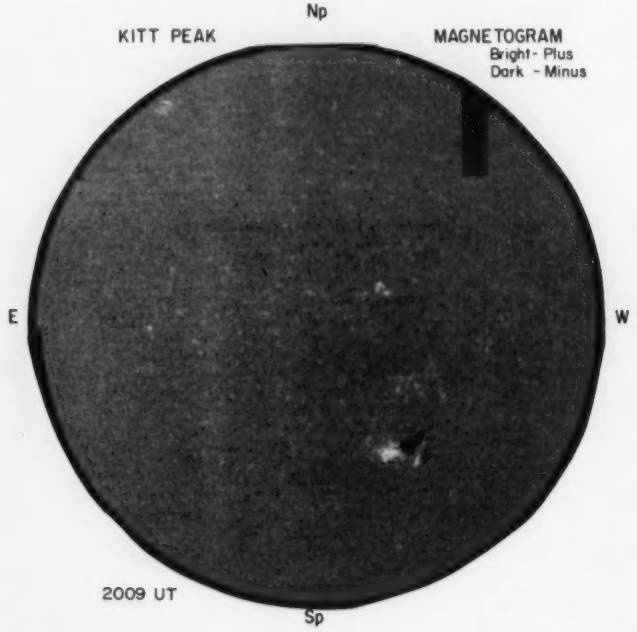
----UT

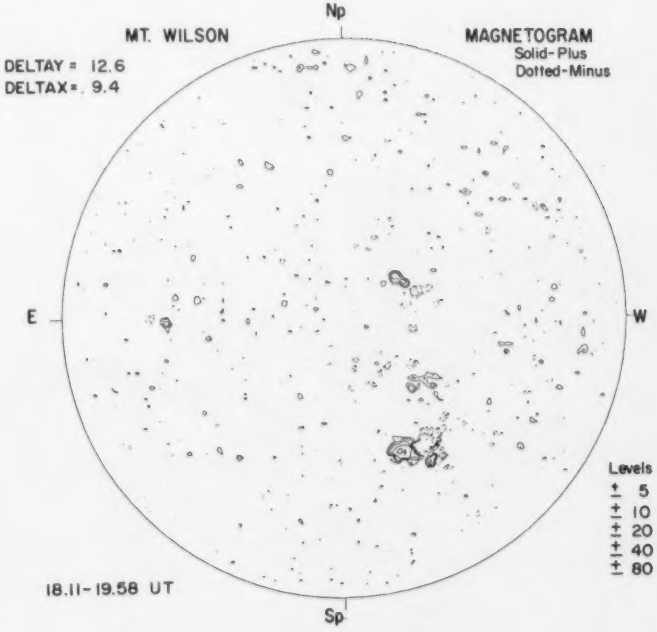
Ant. Temp. Unit 100°K

SEPTEMBER 12, 1976 (P = 23.58, B_o = 7.23, L_o = 21.46)



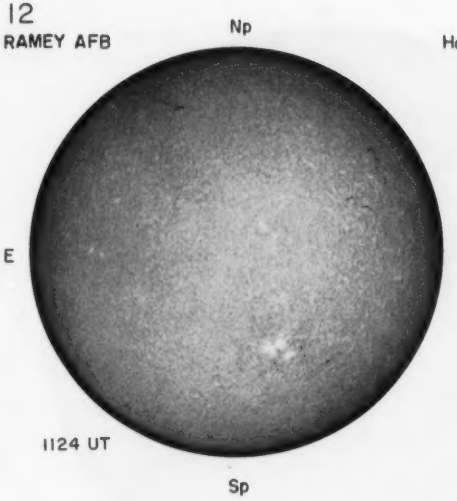




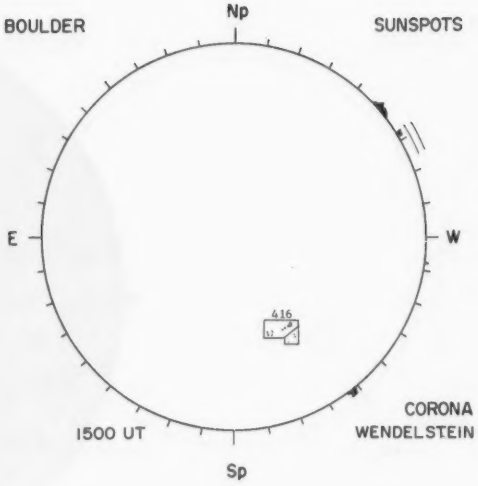


12

RAMEY AFB



Hα BOULDER

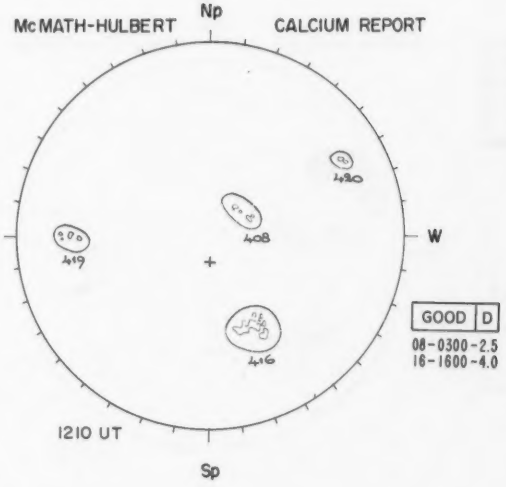


SUNSPOTS

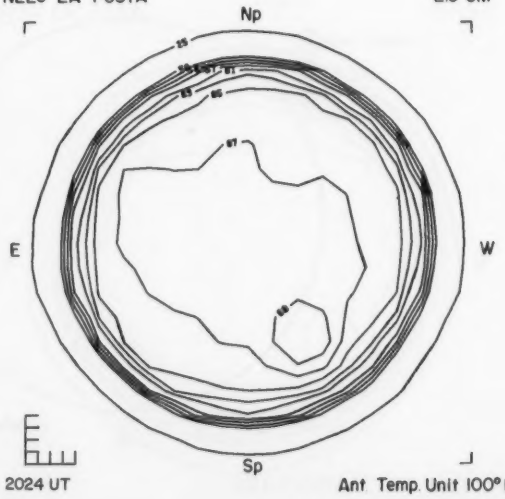
CORONA
WENDELSTEIN

McMATH-HULBERT

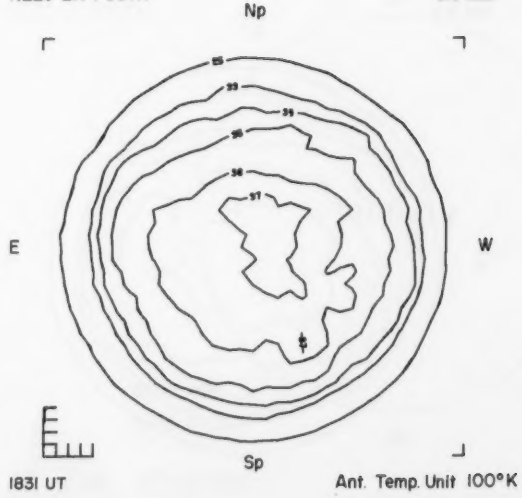
CALCIUM REPORT



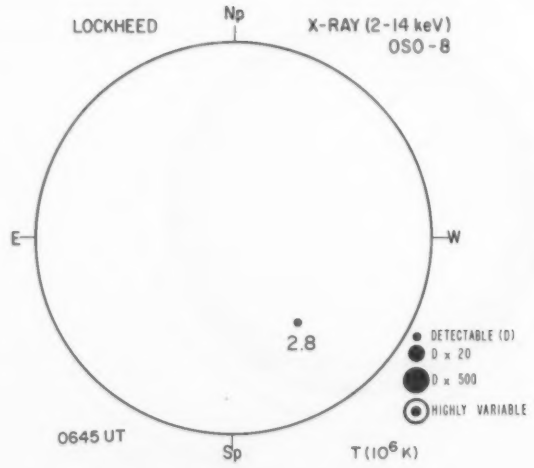
NELC LA POSTA 2.0 CM

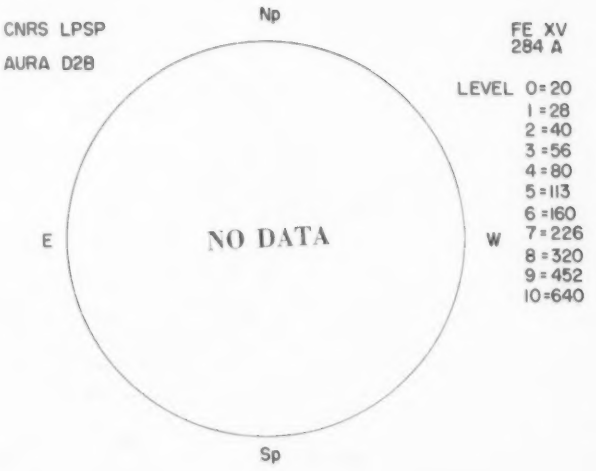


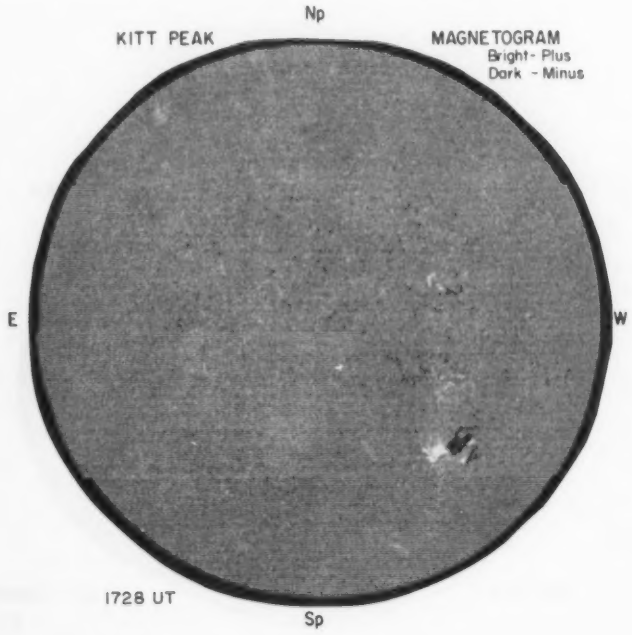
NELC LA POSTA 8.6 MM

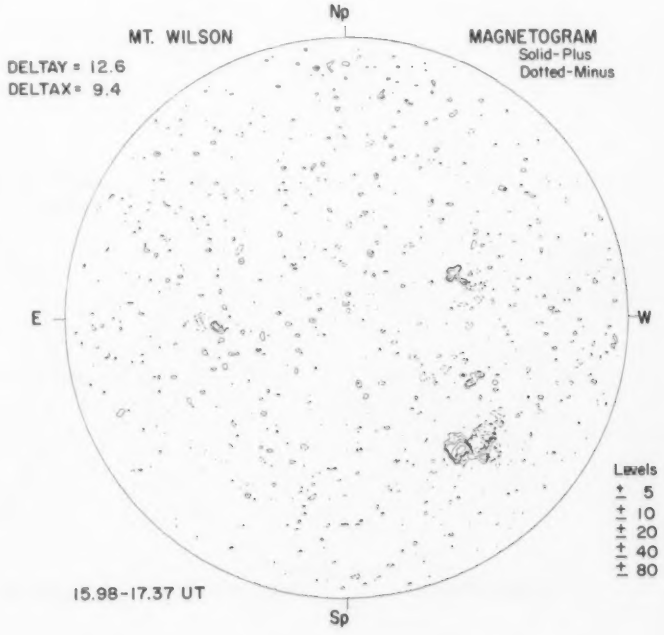


SEPTEMBER 13, 1976 (P = 23.76, B_0 = 7.22, L_0 = 8.25)



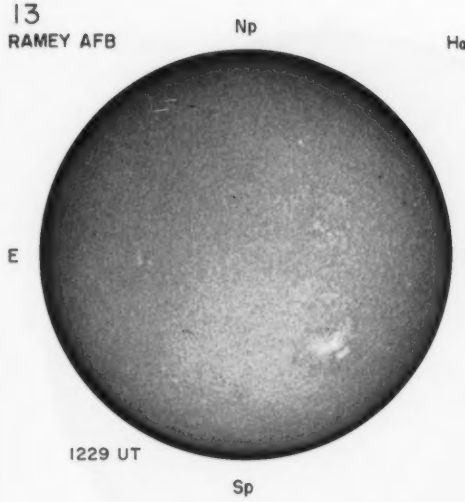




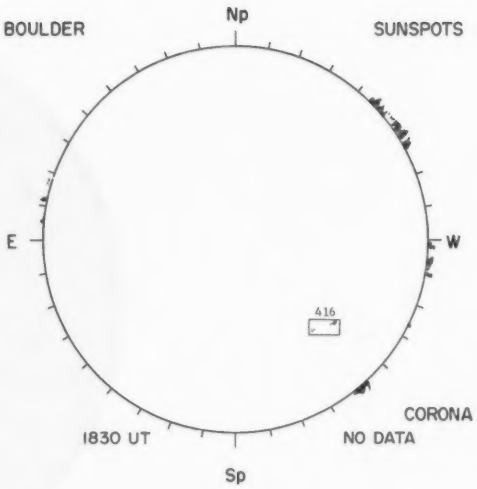


13

RAMEY AFB



Hα BOULDER

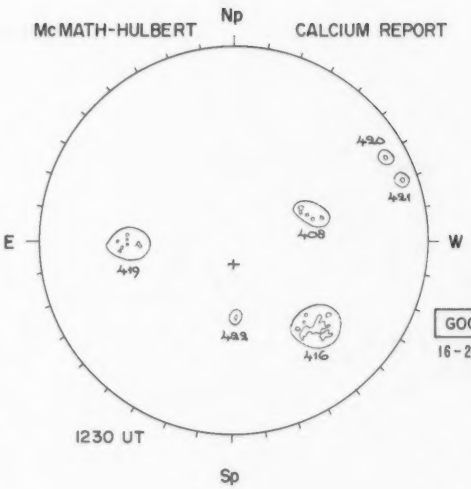


SUNSPOTS

CORONA

NO DATA

McMATH-HULBERT

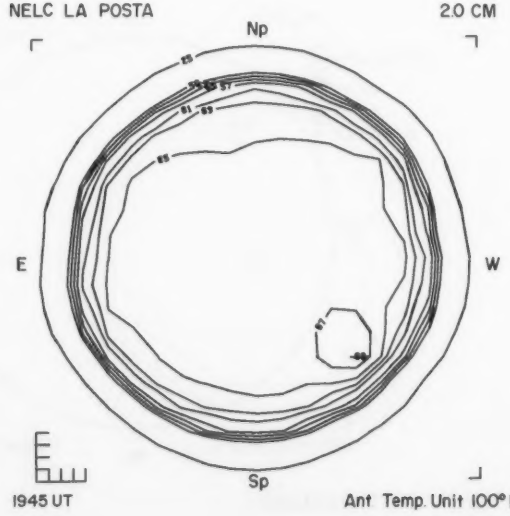


CALCIUM REPORT

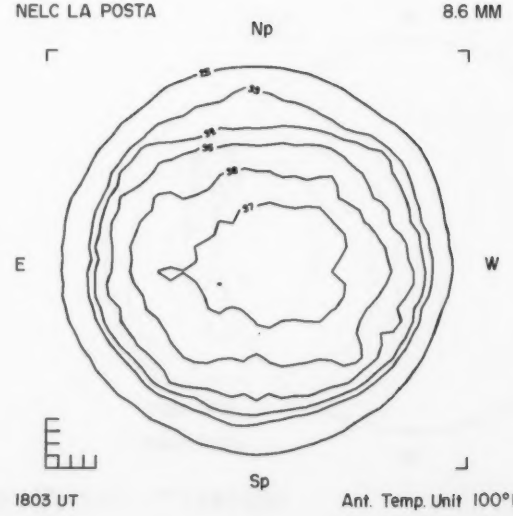
GOOD | S

16 - 2000 - 4.0

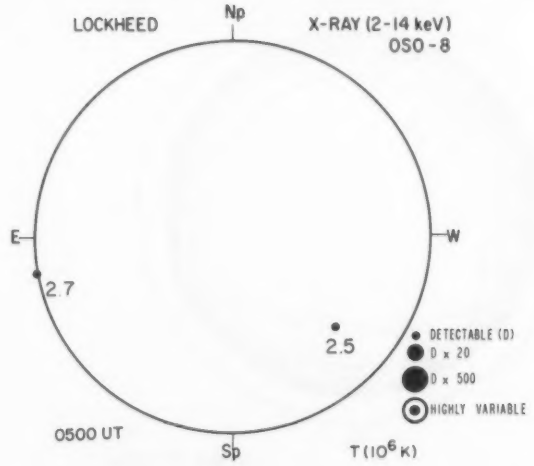
NELC LA POSTA 2.0 CM

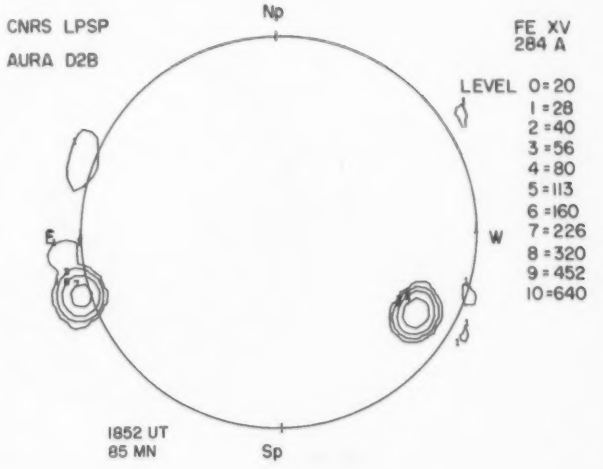


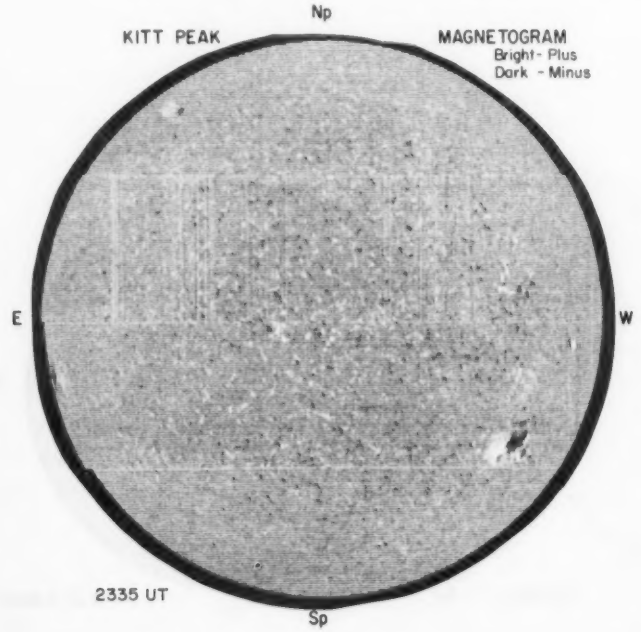
NELC LA POSTA 8.6 MM

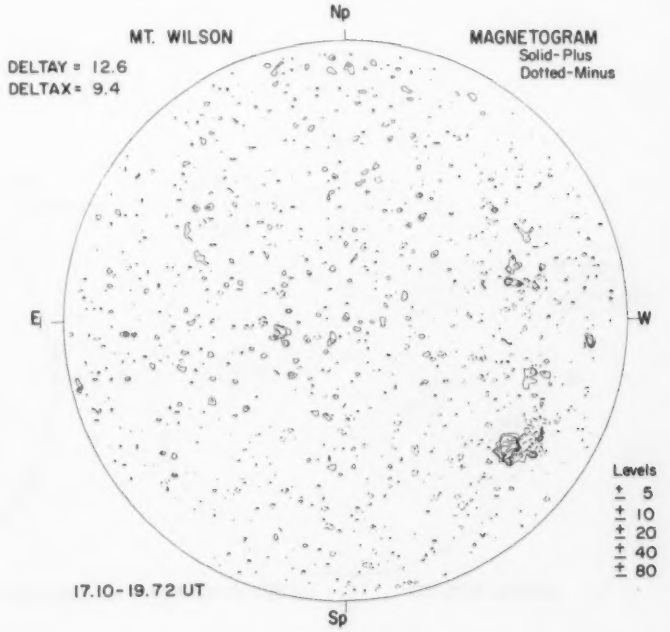


SEPTEMBER 14, 1976 (P = 23.94, B_0 = 7.21, L_0 = 355.05)



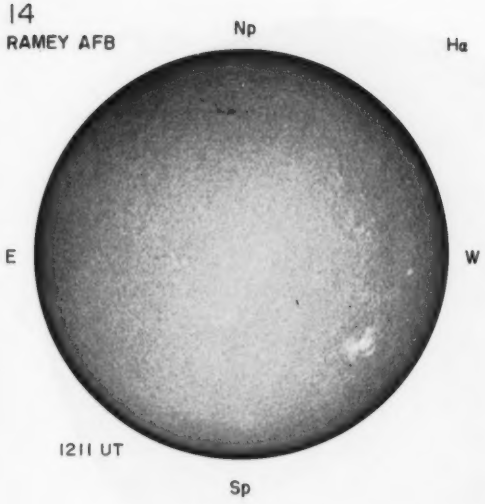




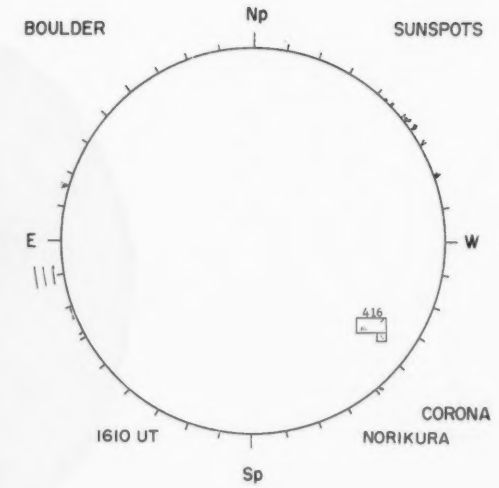


14

RAMEY AFB



Hα BOULDER



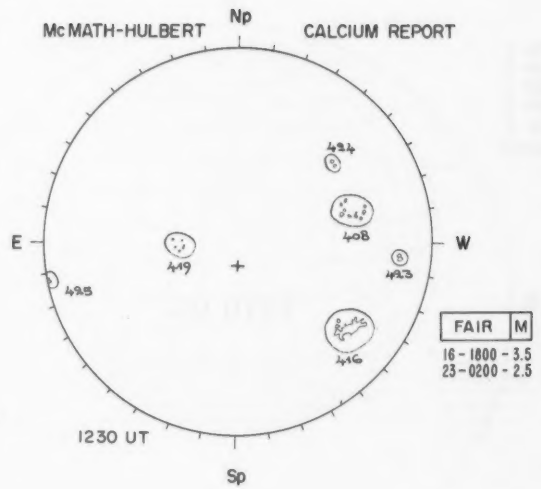
SUNSPOTS

CORONA

NORIKURA

McMATH-HULBERT

CALCIUM REPORT

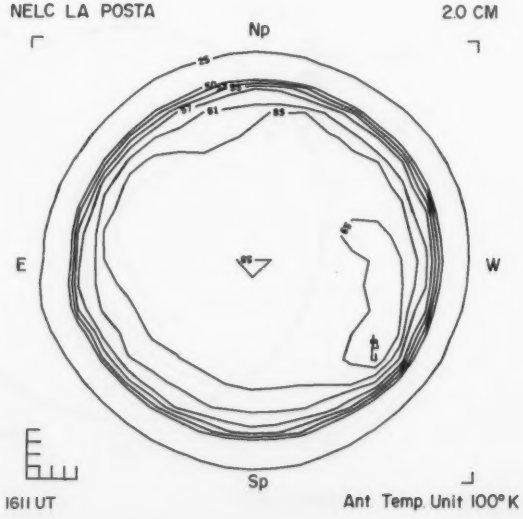


FAIR | M

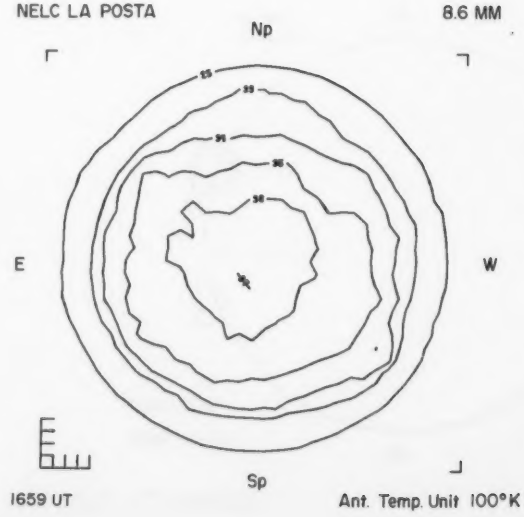
16 - 1800 - 3.5

23 - 0200 - 2.5

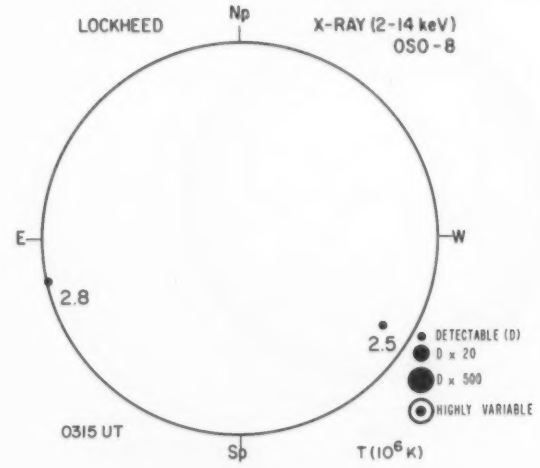
NELC LA POSTA 2.0 CM

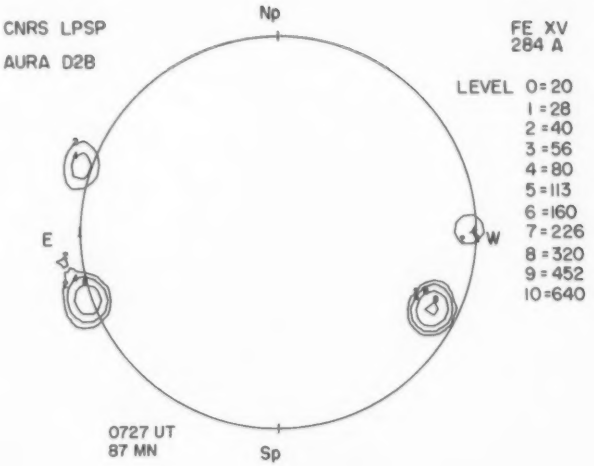


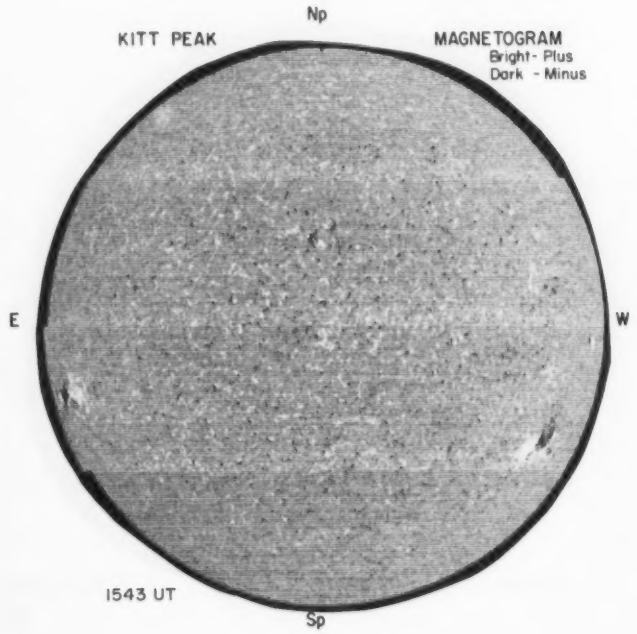
NELC LA POSTA 8.6 MM

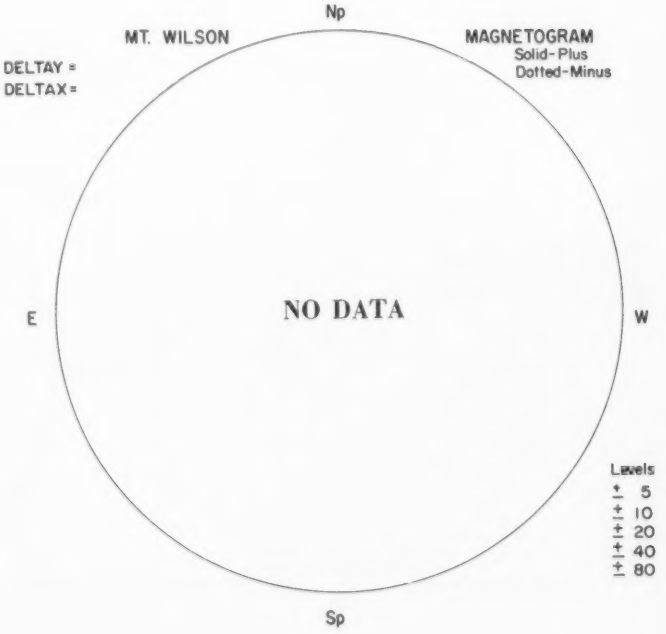


SEPTEMBER 15, 1976 (P = 24.12, B_0 = 7.20, L_0 = 341.85)



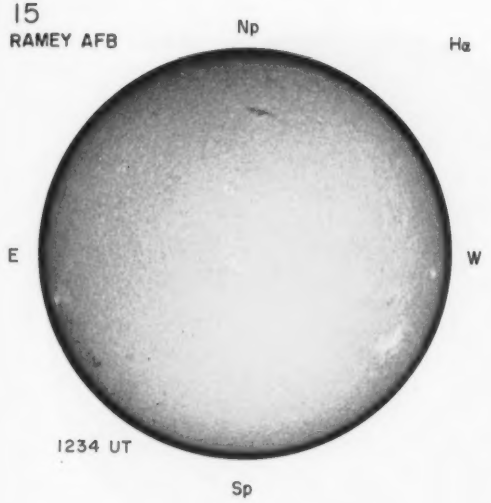




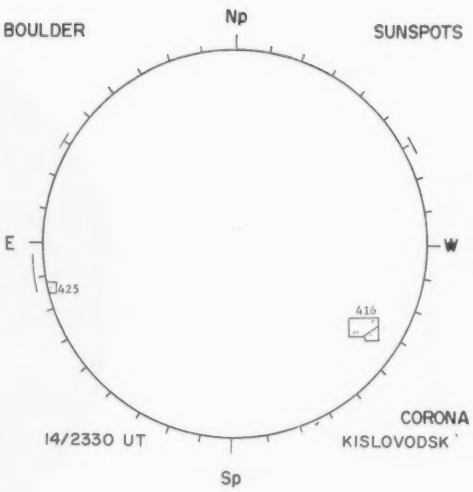


15

RAMEY AFB



Hα BOULDER



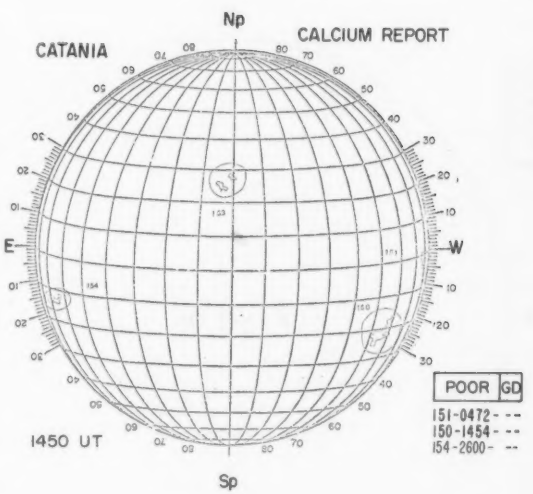
SUNSPOTS

CORONA

KISLOVODSK

CATANIA

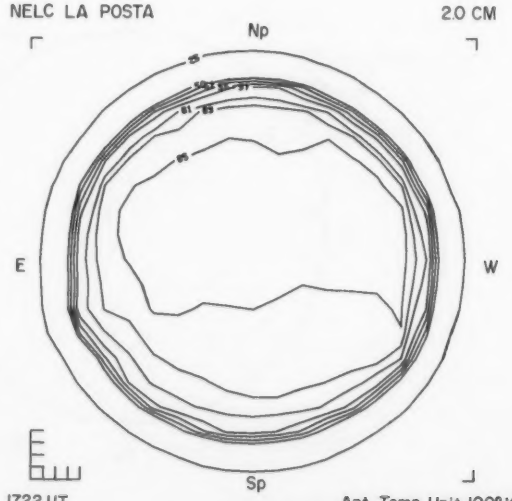
CALCIUM REPORT



	POOR	GD
151-0472-		
150-1454-		
154-2600-		

NELC LA POSTA

2.0 CM



Ant. Temp. Unit 100°K

NELC LA POSTA

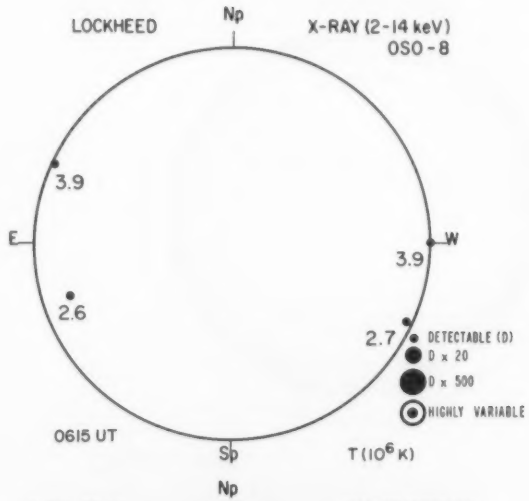
8.6 MM

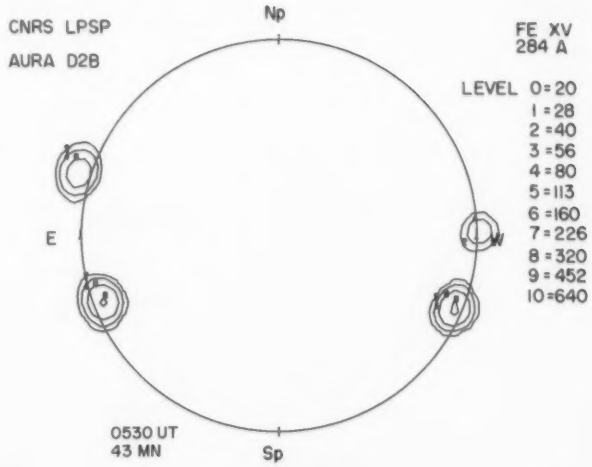
NO DATA

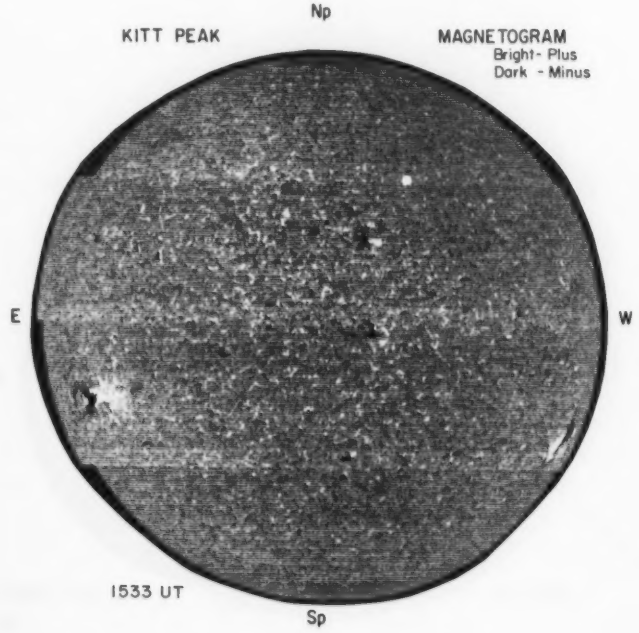
CALIBRATION

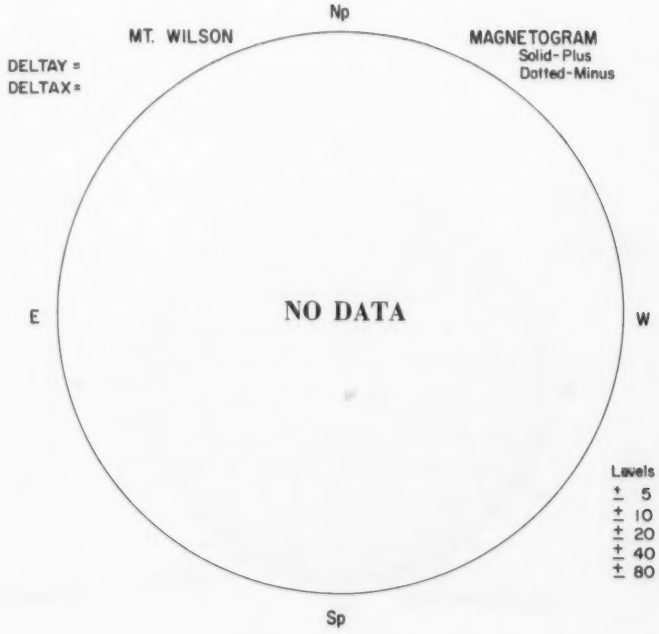
Ant. Temp. Unit 100°K

SEPTEMBER 16, 1976 (P = 24.29, B_0 = 7.18, L_0 = 328.65)



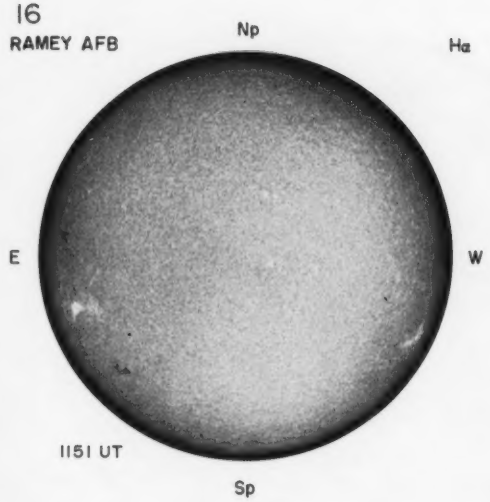






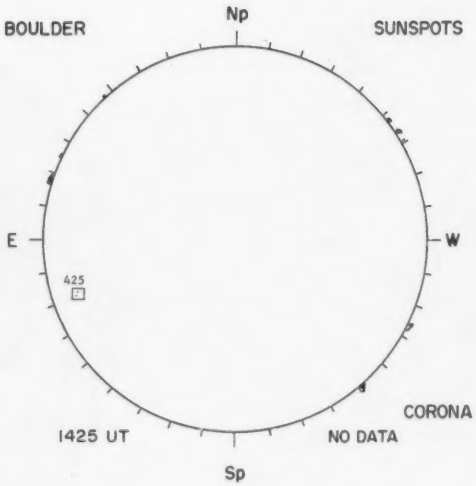
16

RAMEY AFB



1151 UT

Hα BOULDER



1425 UT

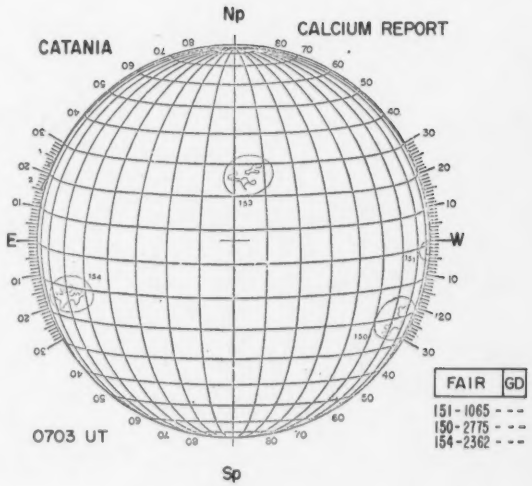
SUNSPOTS

CORONA

NO DATA

CATANIA

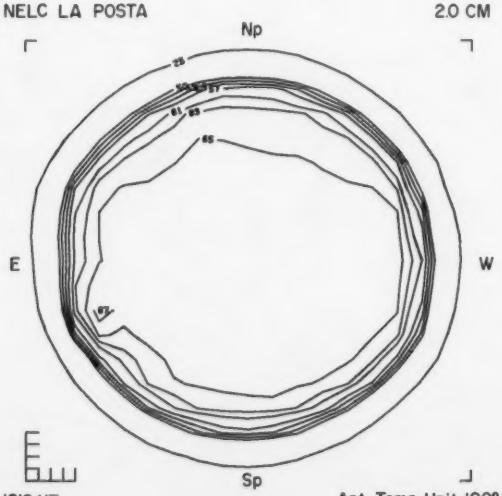
CALCIUM REPORT



0703 UT

	FAIR	GD
151 - 1065		
150 - 2775		
154 - 2362		

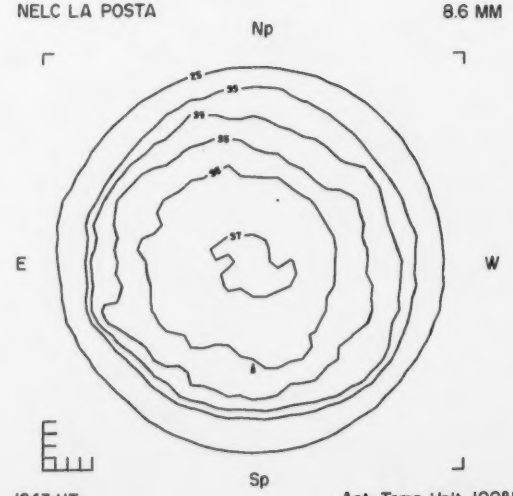
NELC LA POSTA 2.0 CM



1819 UT

Ant. Temp. Unit 100°K

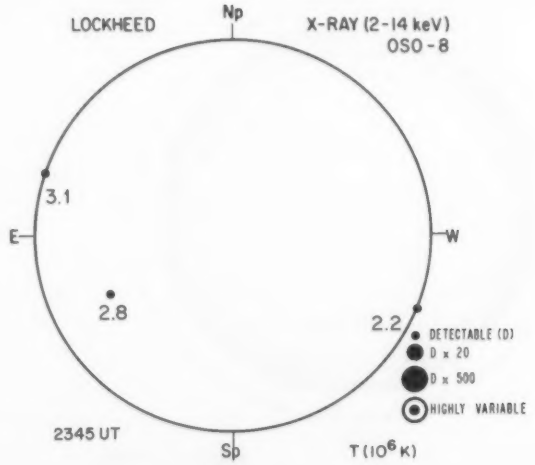
NELC LA POSTA 8.6 MM

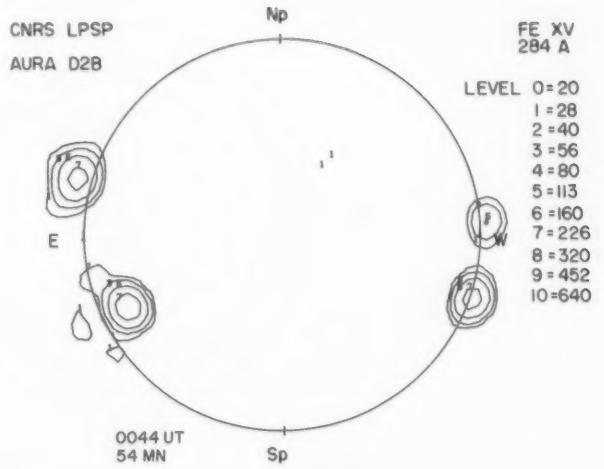


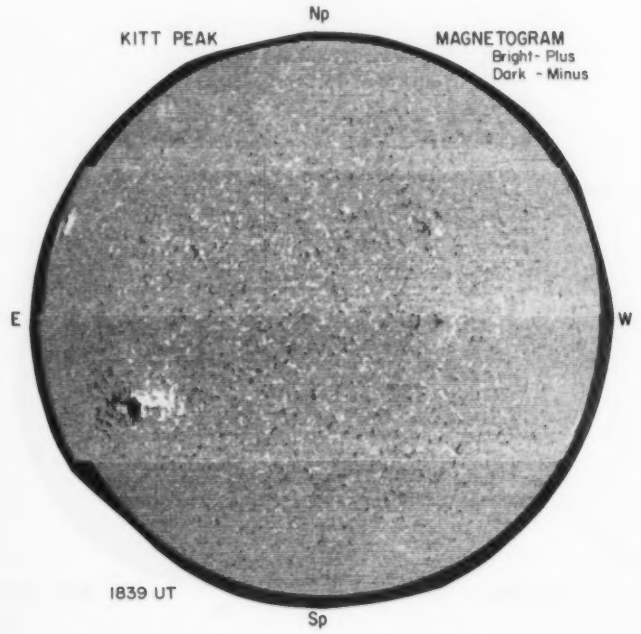
1643 UT

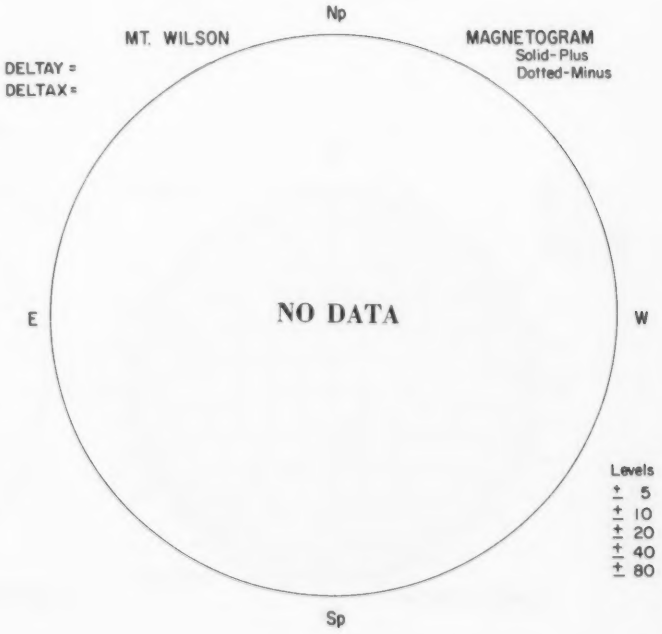
Ant. Temp. Unit 100°K

SEPTEMBER 17, 1976 (P = 24.45, B_0 = 7.16, L_0 = 315.44)



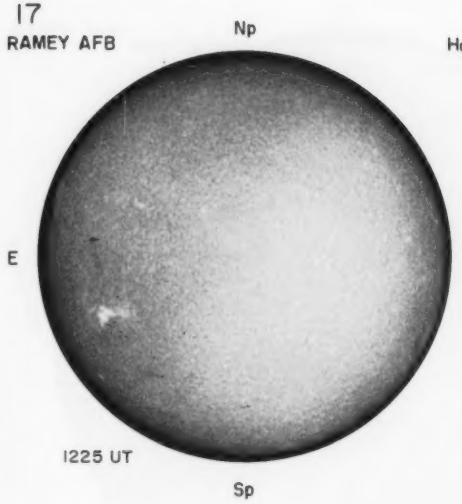




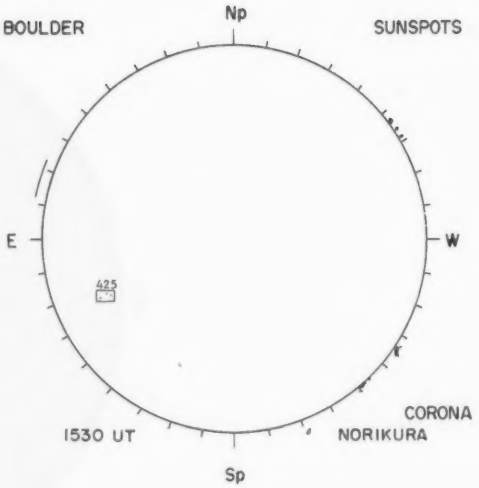


17

RAMEY AFB Hα

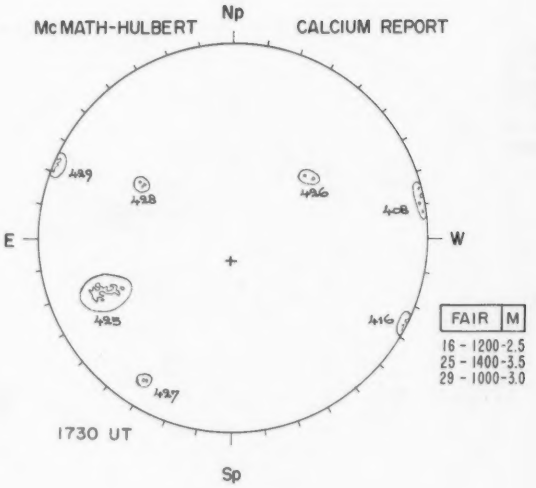


BOULDER SUNSPOTS



CORONA
NORIKURA

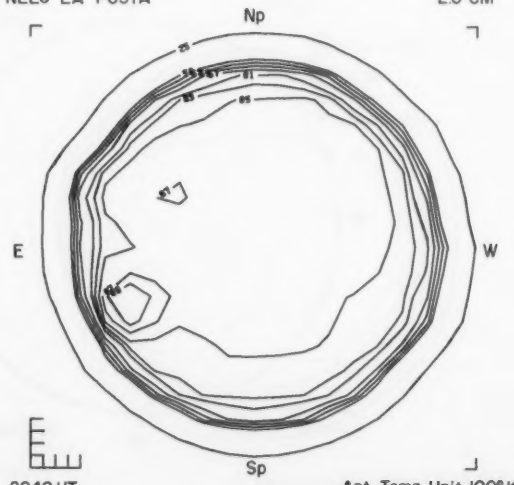
McMATH-HULBERT CALCIUM REPORT



FAIR	M

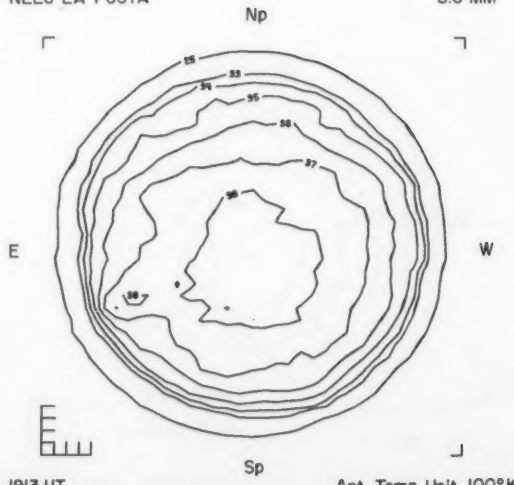
16 - 1200-2.5
25 - 1400-3.5
29 - 1000-3.0

NELC LA POSTA 2.0 CM



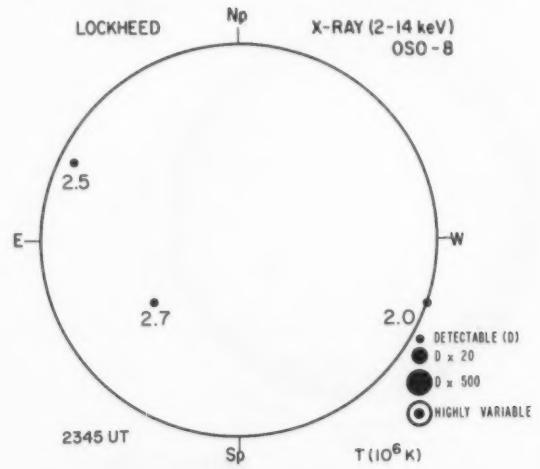
Ant. Temp. Unit 100°K

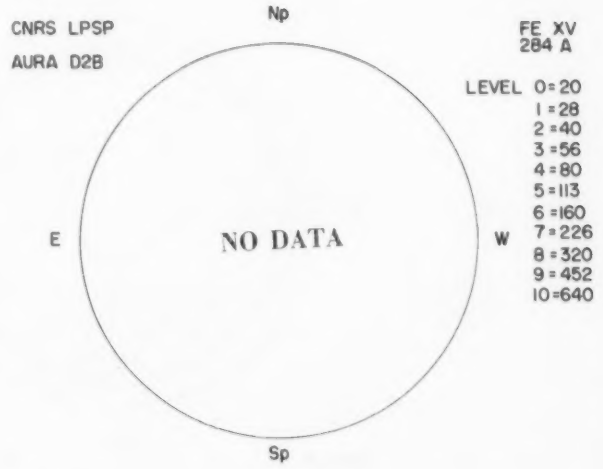
NELC LA POSTA 8.6 MM

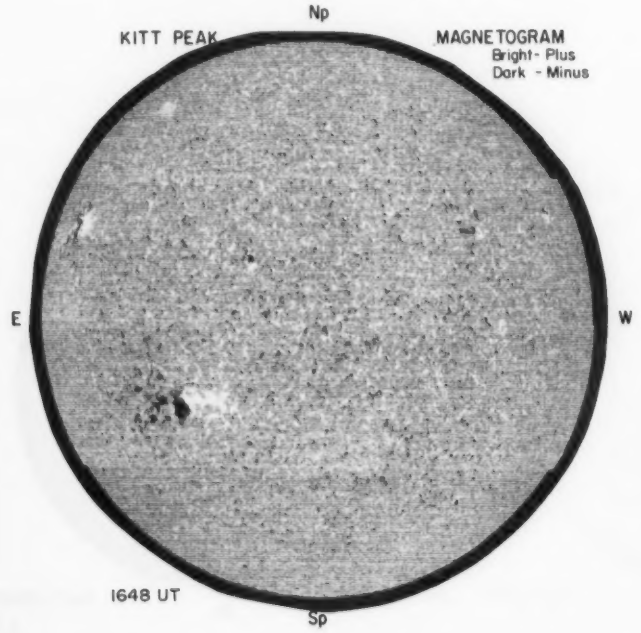


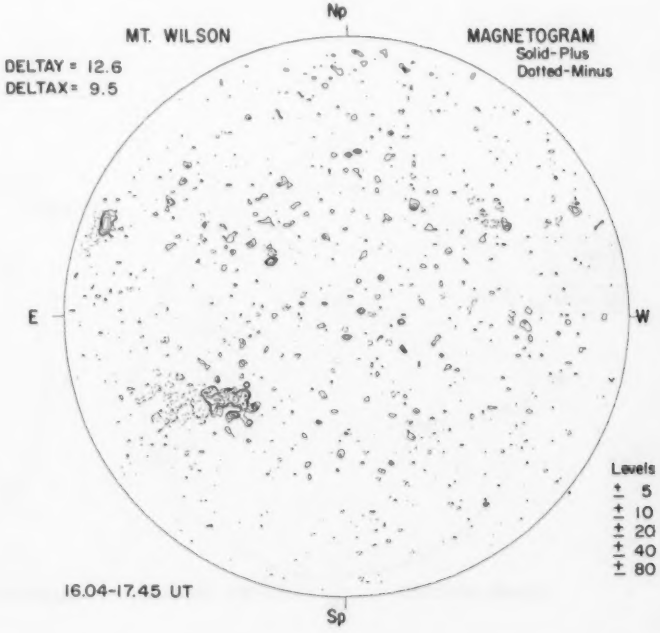
Ant. Temp. Unit 100°K

SEPTEMBER 18, 1976 (P = 24.60, B_o = 7.14, L_o = 302.24)



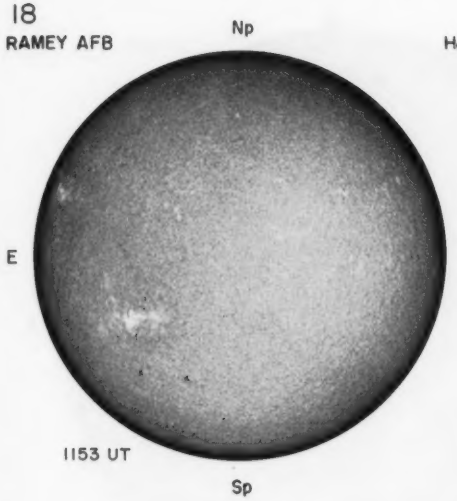




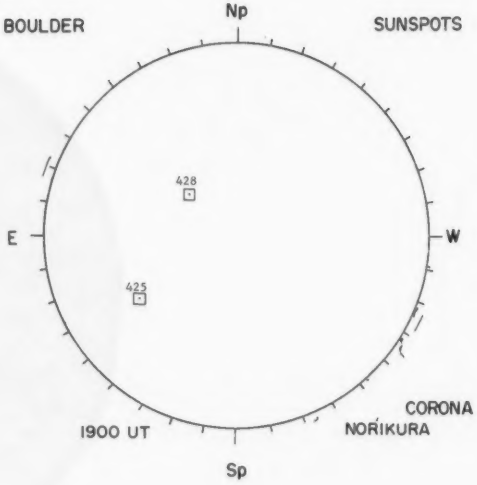


18

RAMEY AFB



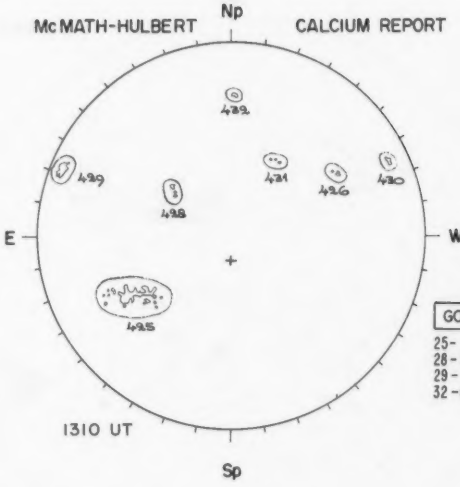
Hα BOULDER



SUNSPOTS

CORONA
NORIKURA

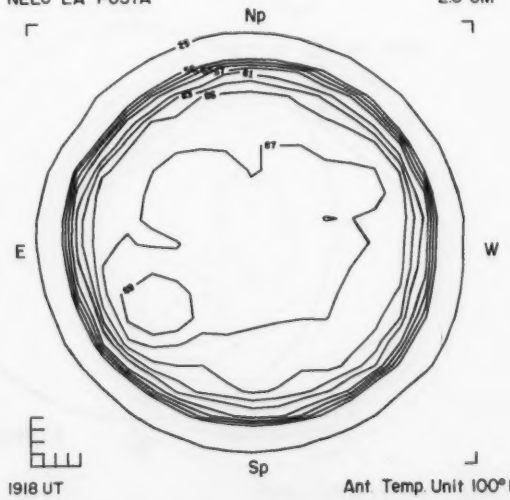
McMATH-HULBERT



CALCIUM REPORT

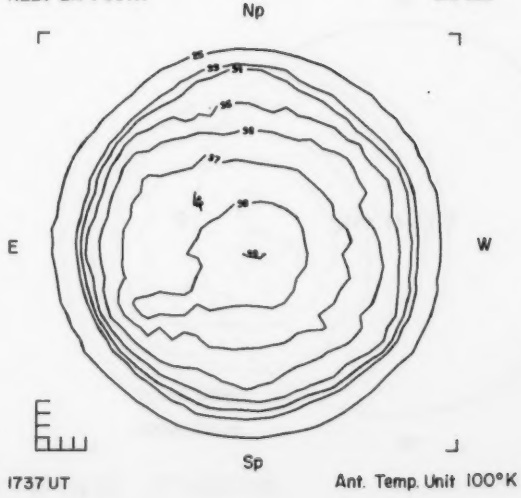
GOOD	M
25 - 1600 - 3.5	
28 - 0200 - 3.0	
29 - 1300 - 3.0	
32 - 0100 - 2.5	

NELC LA POSTA 2.0 CM



Ant. Temp. Unit 100°K

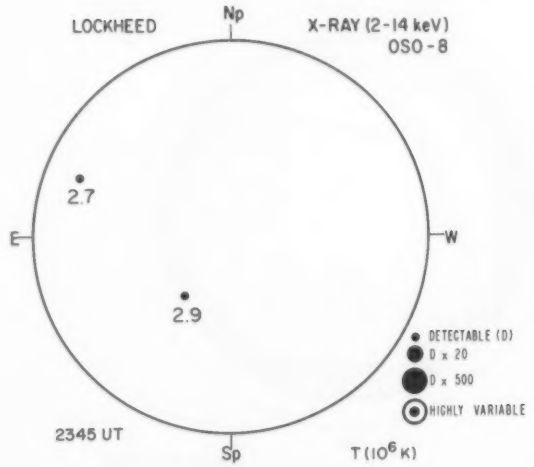
NELC LA POSTA 8.6 MM

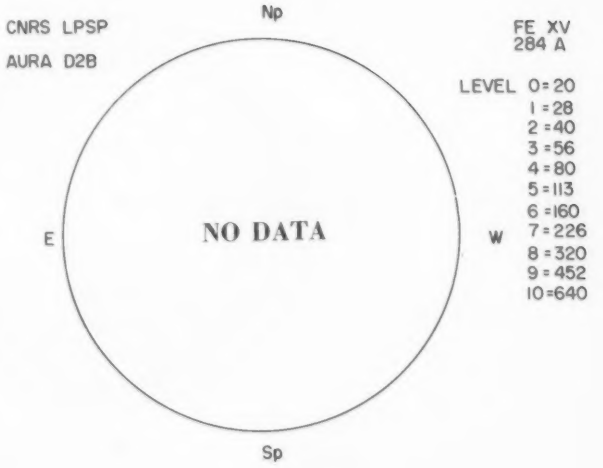


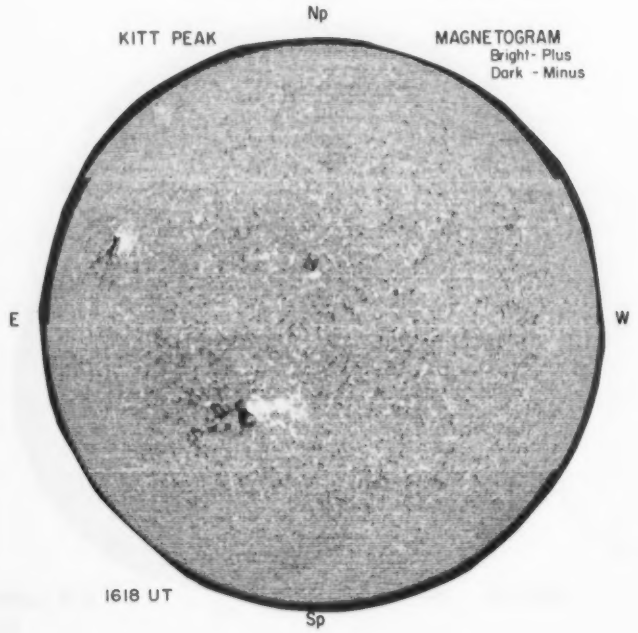
Ant. Temp. Unit 100°K

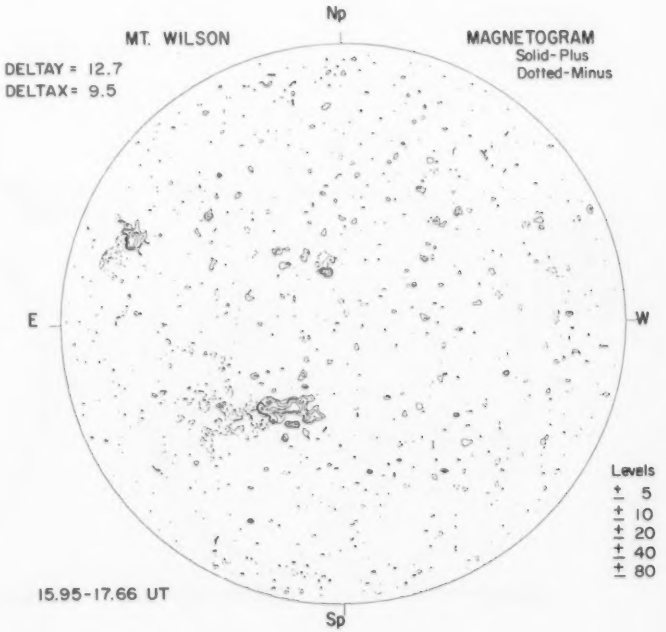
61
Sep 76

SEPTEMBER 19, 1976 (P = 24.75, B_0 = 7.12, L_0 = 289.04)



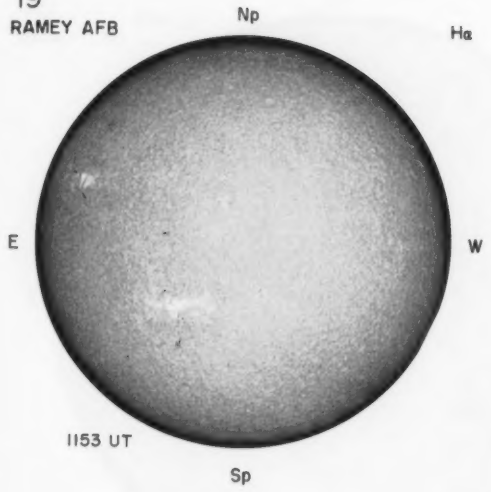






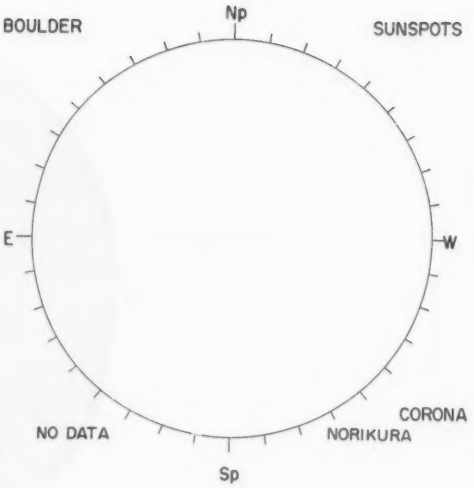
19

RAMEY AFB



1153 UT

Hα BOULDER



NO DATA

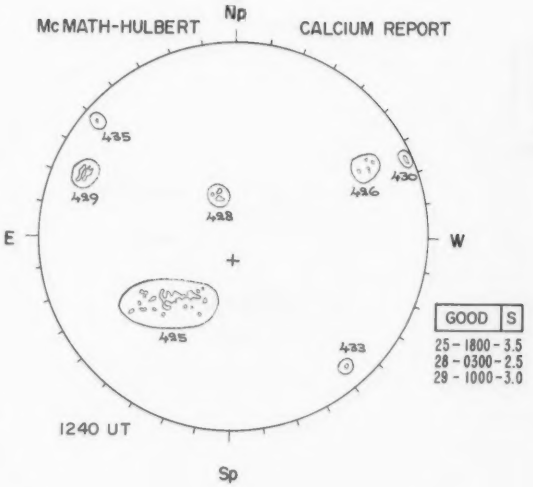
SUNSPOTS

CORONA

NORIKURA

McMATH-HULBERT

CALCIUM REPORT



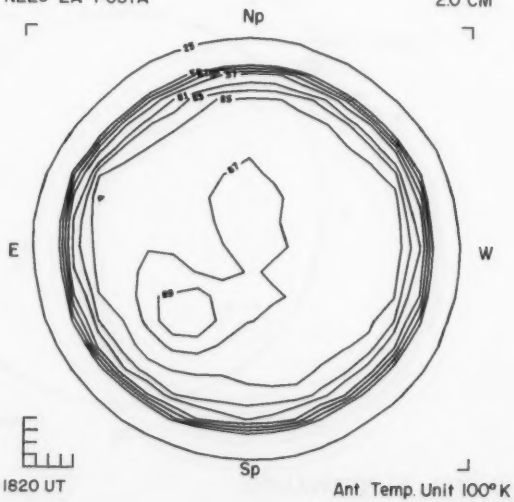
1240 UT

GOOD	S

25 - 1800 - 3.5
28 - 0300 - 2.5
29 - 1000 - 3.0

NELC LA POSTA

2.0 CM

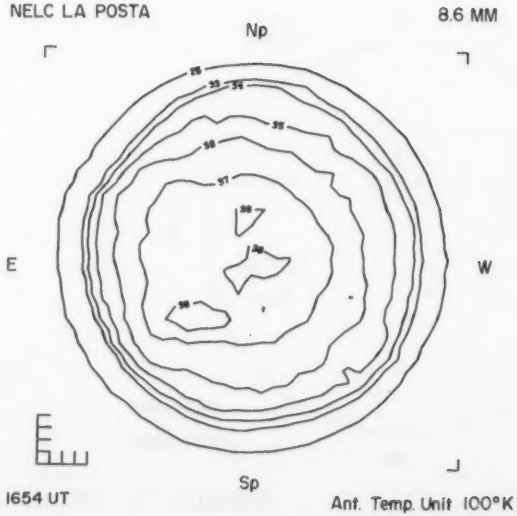


1820 UT

Ant. Temp. Unit 100°K

NELC LA POSTA

8.6 MM

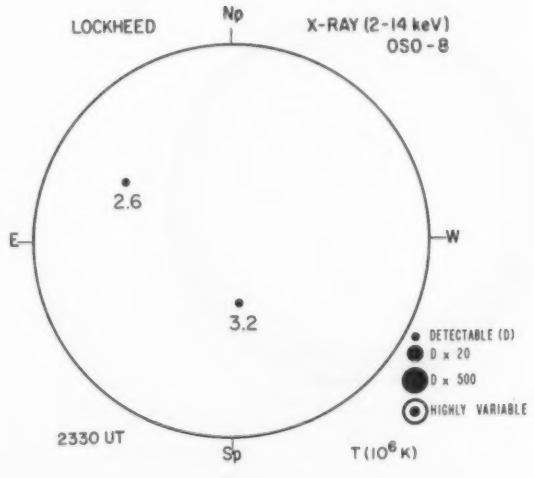


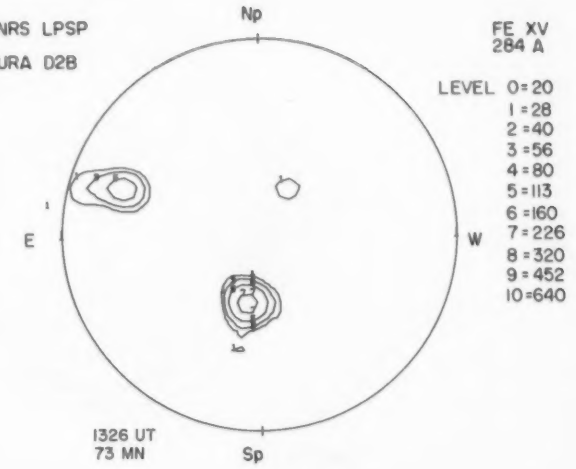
1654 UT

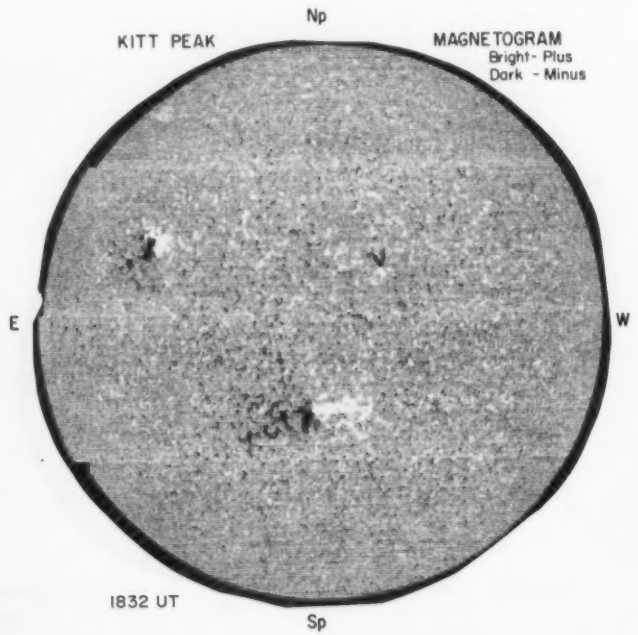
Ant. Temp. Unit 100°K

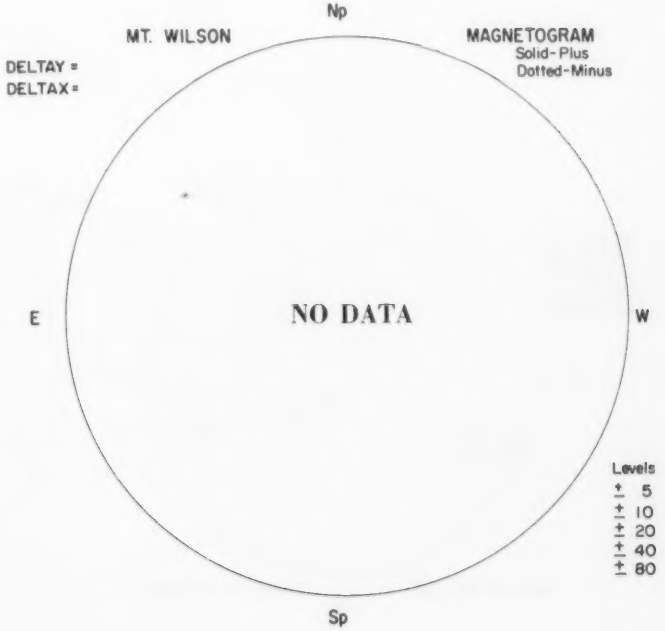
63
Sep 76

SEPTEMBER 20, 1976 (P = 24.89, B_0 = 7.10, L_0 = 275.84)



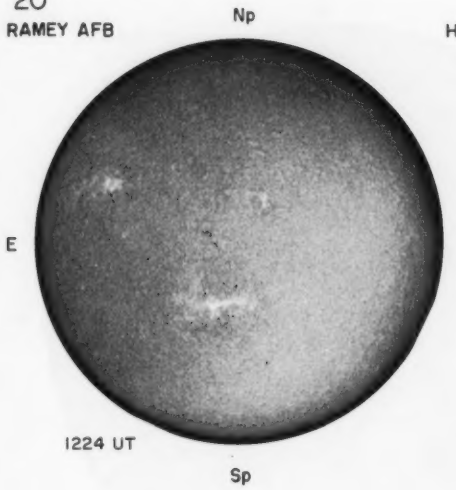






20

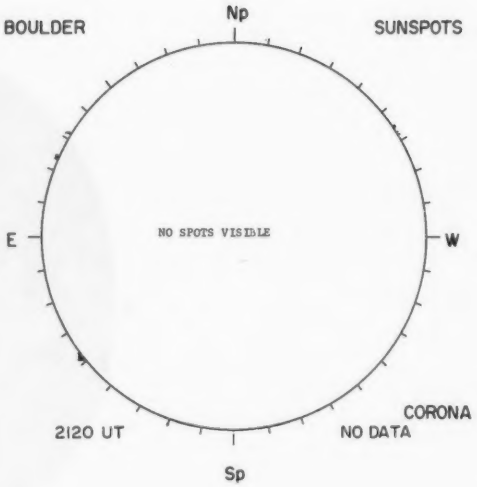
RAMEY AFB



1224 UT

Hα

BOULDER



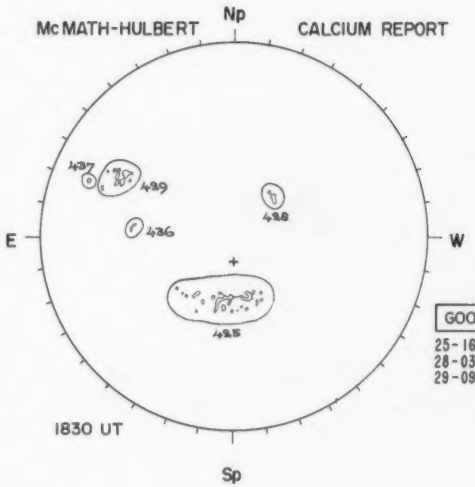
2120 UT

SUNSPOTS

CORONA

NO DATA

McMATH-HULBERT



1830 UT

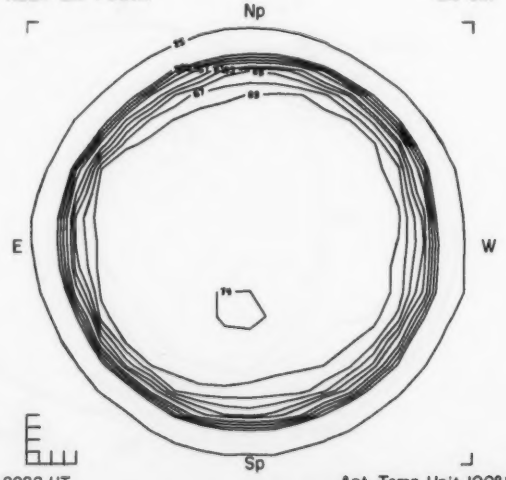
CALCIUM REPORT

GOOD	S

25-1600-3.0
28-0300-2.5
29-0900-3.0

NELC LA POSTA

2.0 CM



2022 UT

Ant. Temp. Unit 100°K

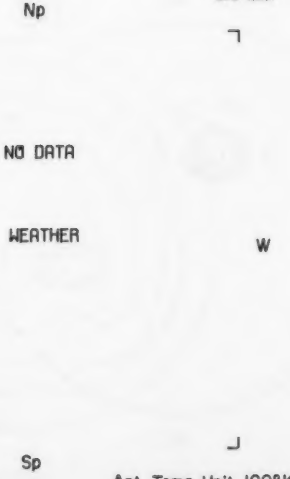
NELC LA POSTA

8.6 MM

NO DATA

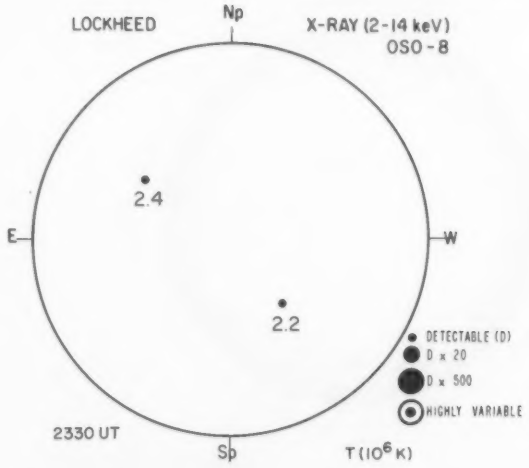
WEATHER

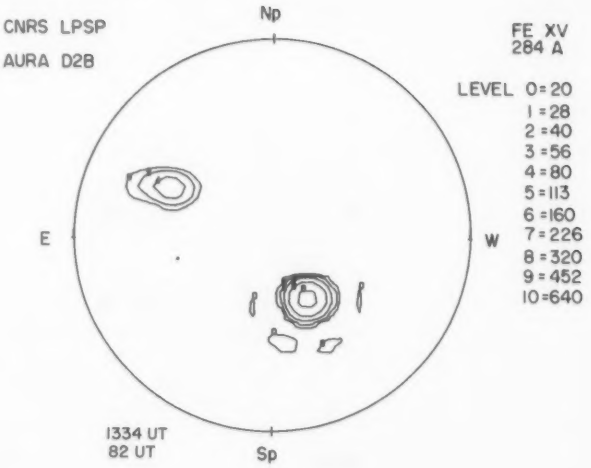
----UT

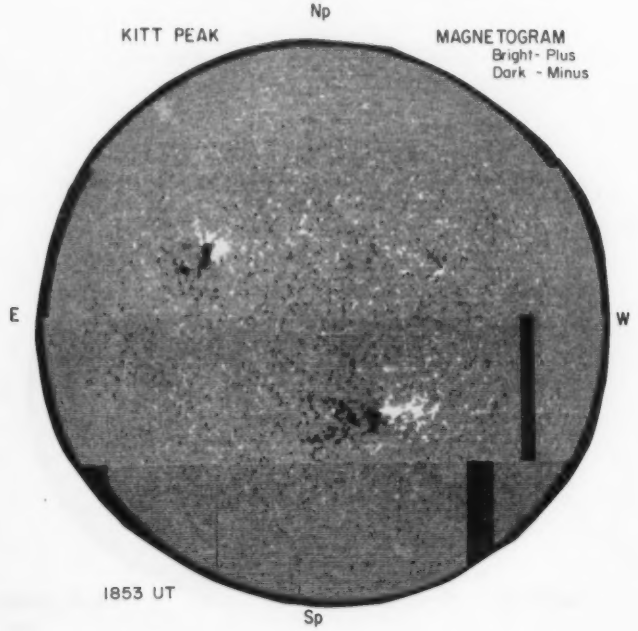


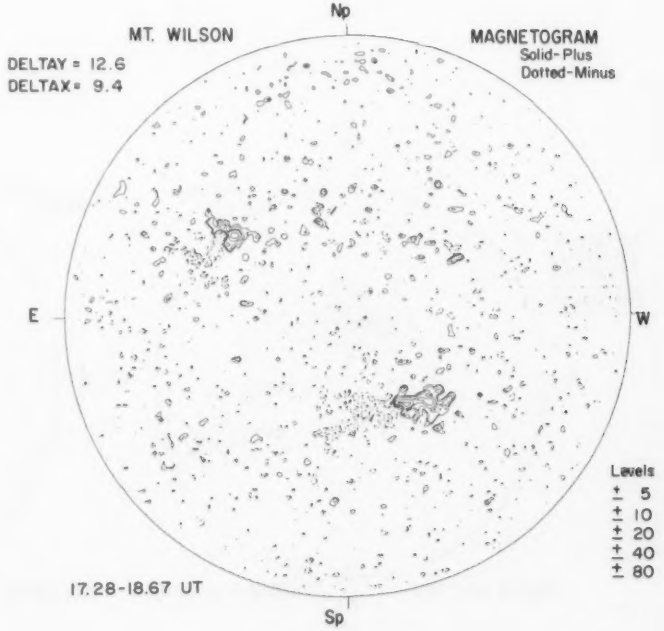
Ant. Temp. Unit 100°K

SEPTEMBER 21, 1976 (P = 25.03, B_o = 7.07, L_o = 262.64)



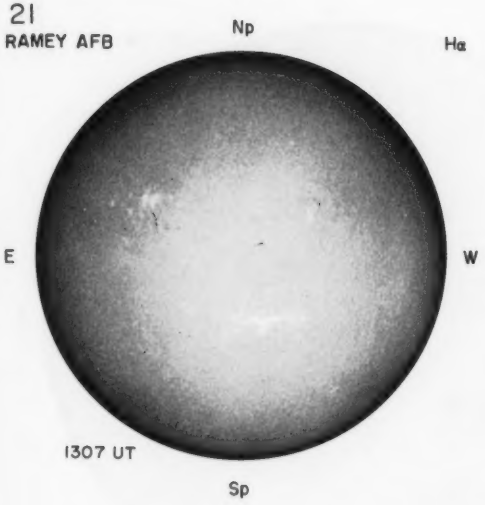






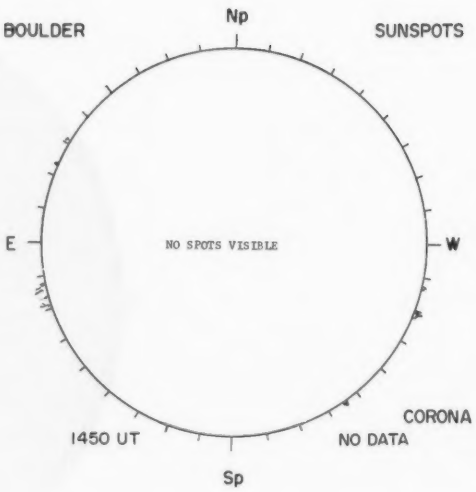
21

RAMEY AFB



1307 UT

Hα BOULDER



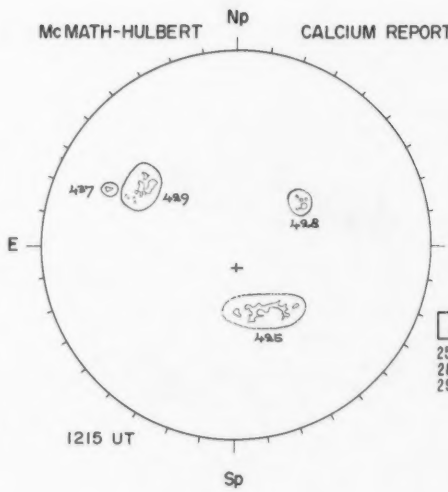
1450 UT

SUNSPOTS

CORONA

NO DATA

McMATH-HULBERT



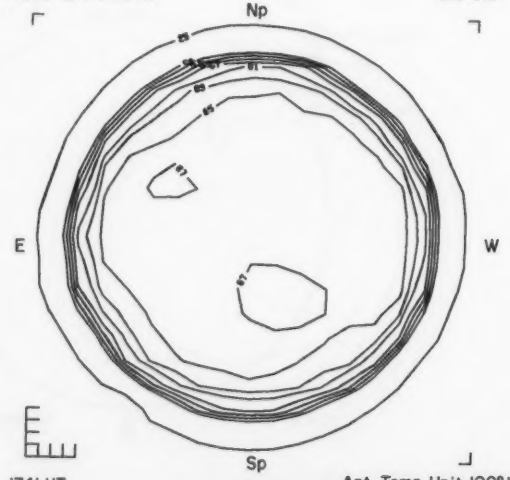
1215 UT

CALCIUM REPORT

POOR	M

25 - 1500 - 3.0
28 - 0300 - 2.0
29 - 1000 - 2.5

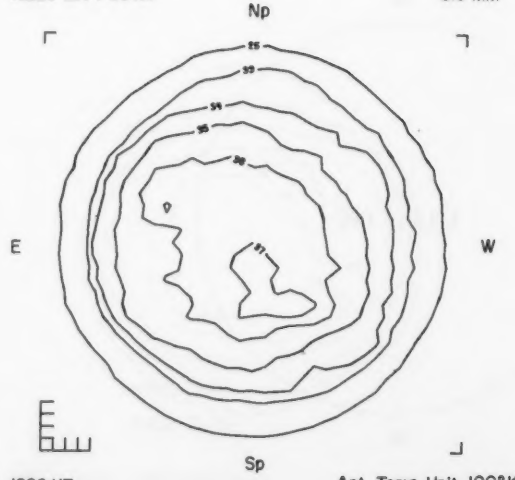
NELC LA POSTA



1741 UT

Ant. Temp. Unit 100°K

NELC LA POSTA

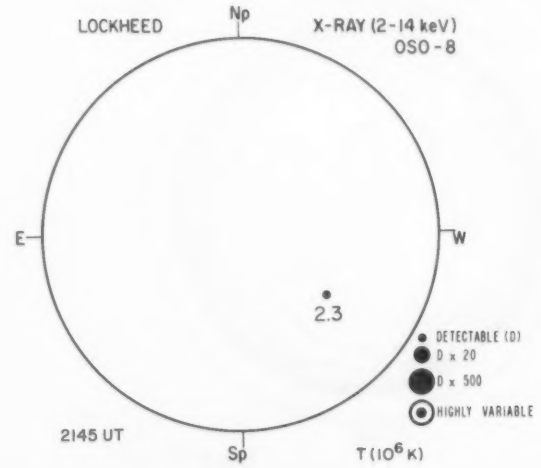


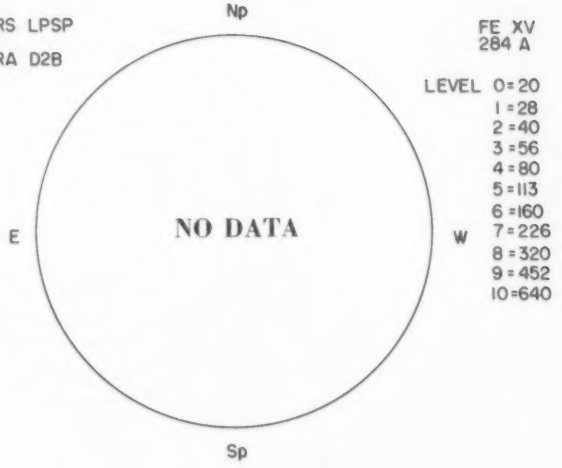
1608 UT

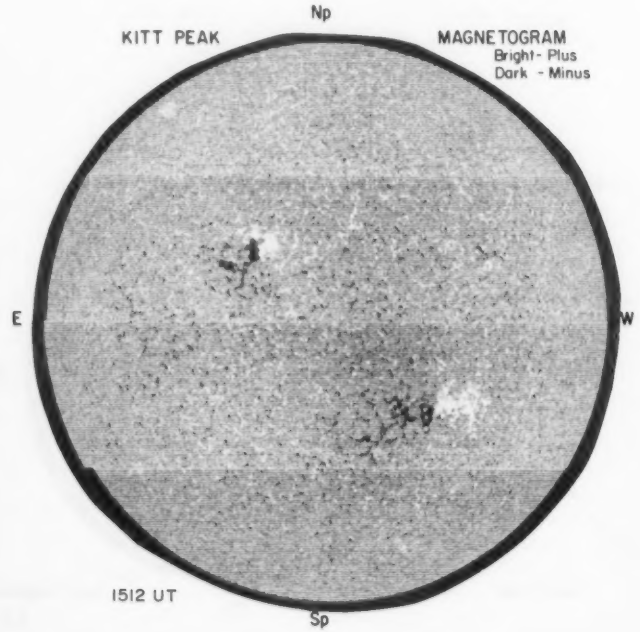
Ant. Temp. Unit 100°K

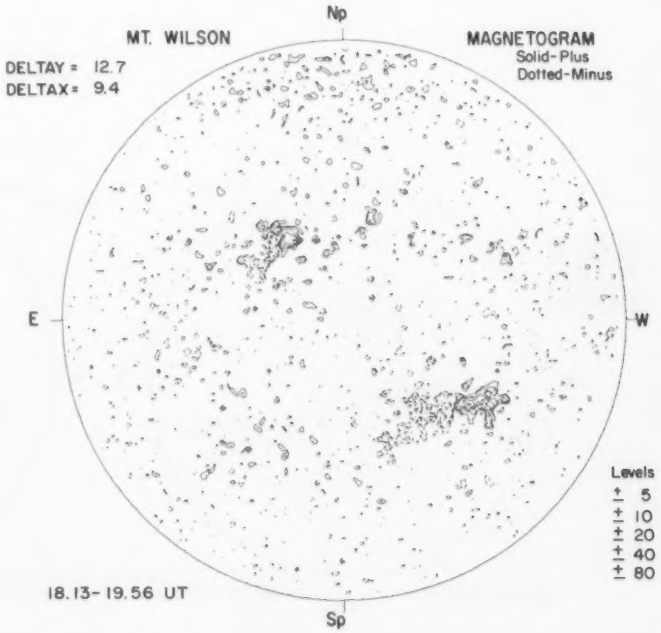
67
Sep 76

SEPTEMBER 22, 1976 (P = 25.16, B_o = 7.04, L_o = 249.44)



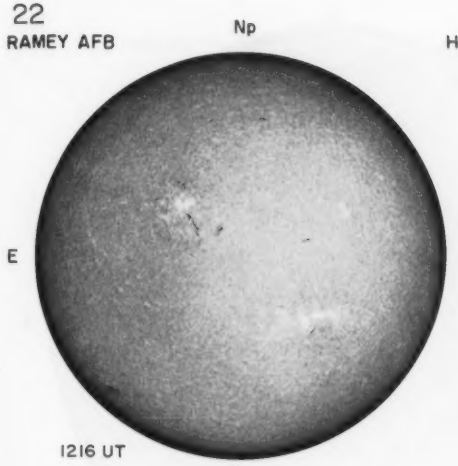






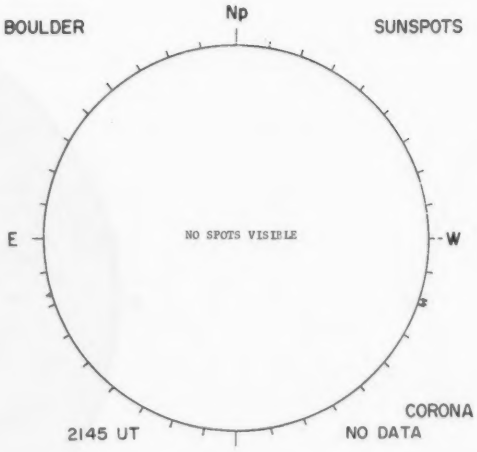
22

RAMEY AFB



1216 UT

Hα BOULDER



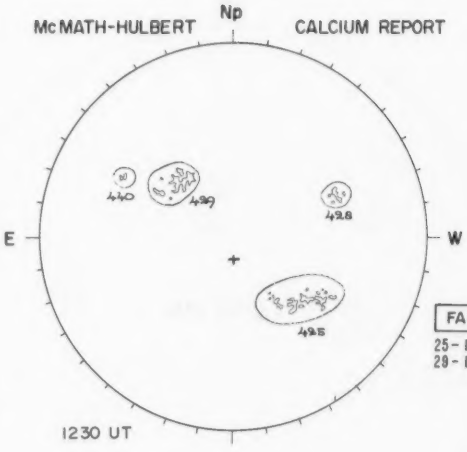
2145 UT

SUNSPOTS

CORONA

NO DATA

McMATH-HULBERT



1230 UT

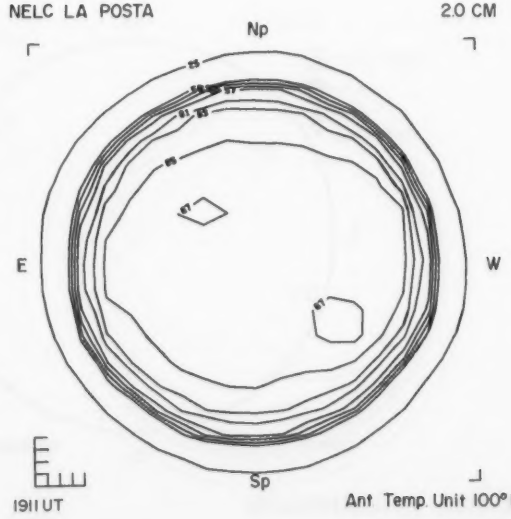
CALCIUM REPORT

FAIR	S

25 - 1300 - 3.0
29 - 1200 - 3.0

NELC LA POSTA

2.0 CM

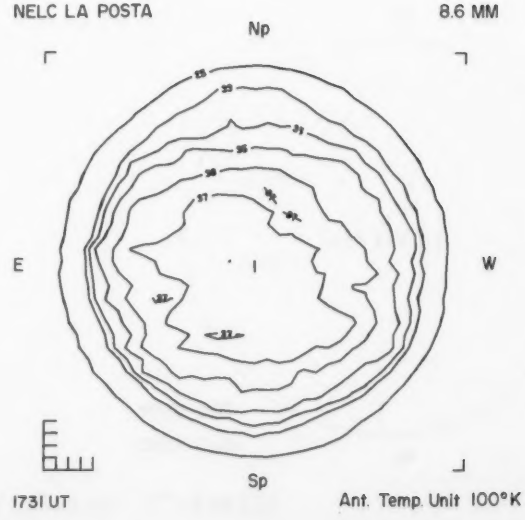


1911 UT

Ant. Temp. Unit 100°K

NELC LA POSTA

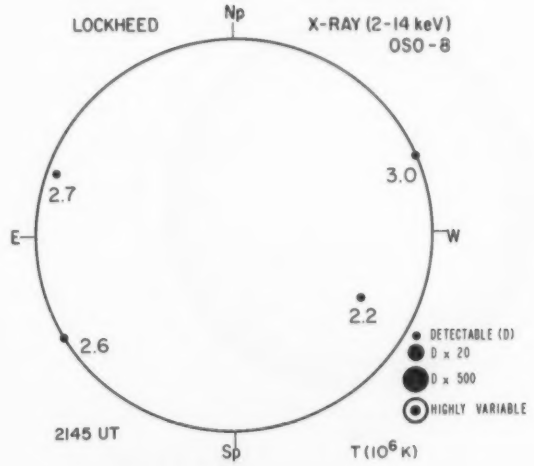
8.6 MM

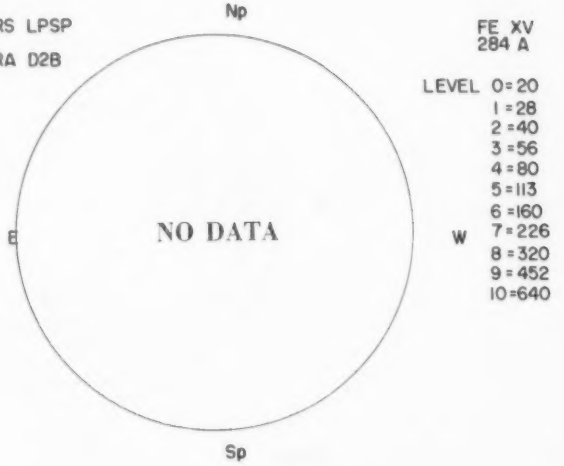


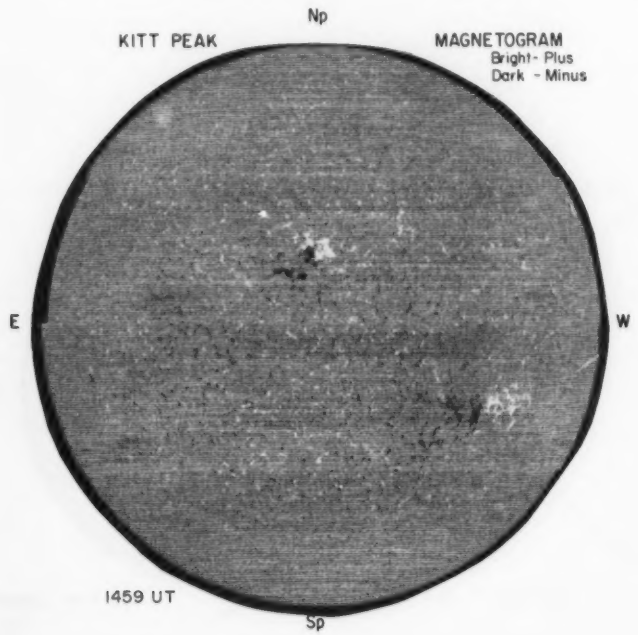
1731 UT

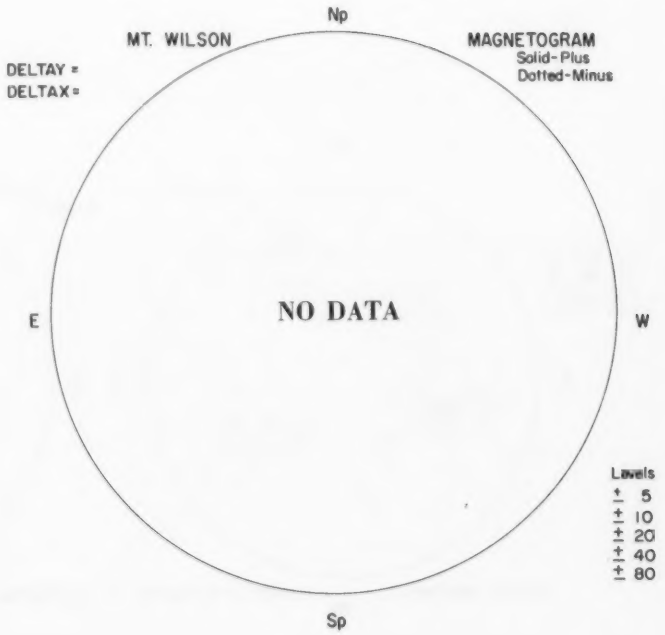
Ant. Temp. Unit 100°K

SEPTEMBER 23, 1976 (P = 25.28, B_0 = 7.01, L_0 = 236.25)



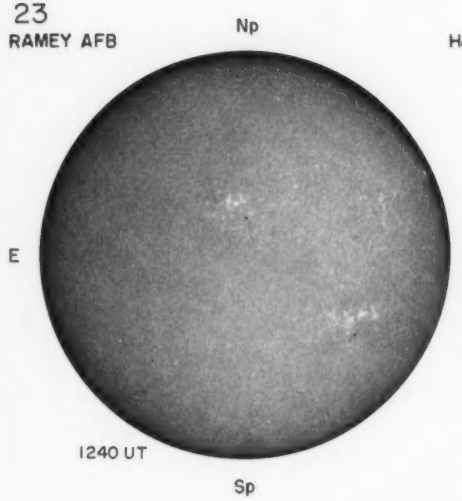




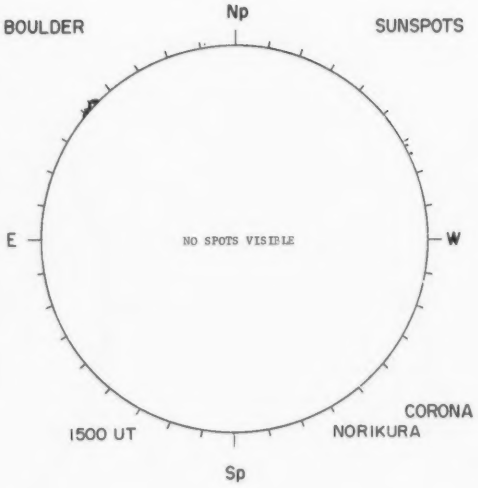


23

RAMEY AFB



BOULDER

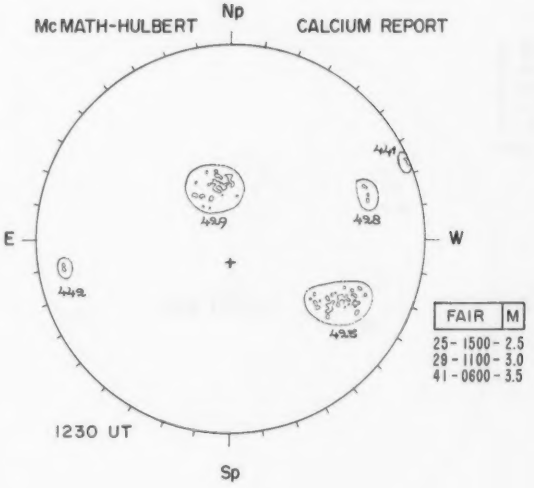


CORONA

NORIKURA

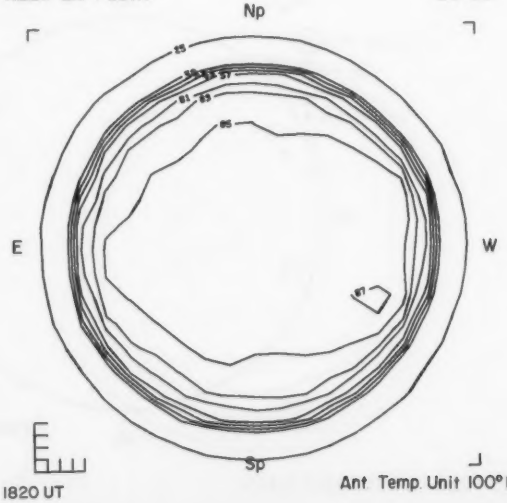
McMATH-HULBERT

CALCIUM REPORT



NELC LA POSTA

2.0 CM



1820 UT

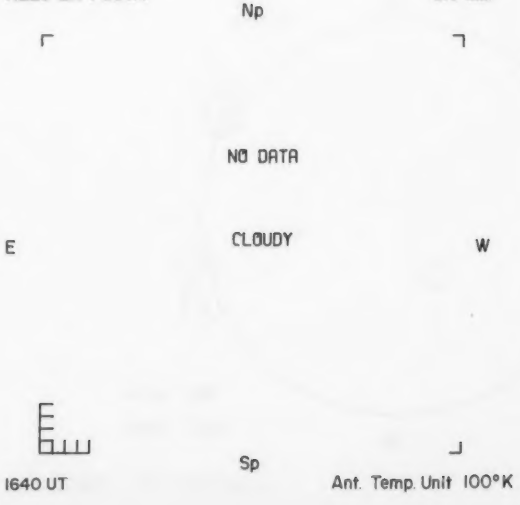
Ant. Temp. Unit 100°K

NELC LA POSTA

8.6 MM

NO DATA

CLOUDY

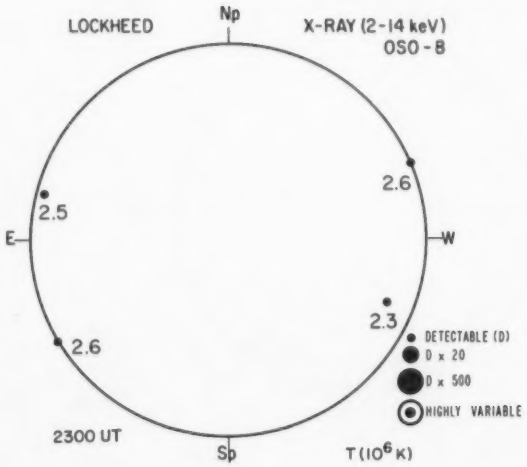


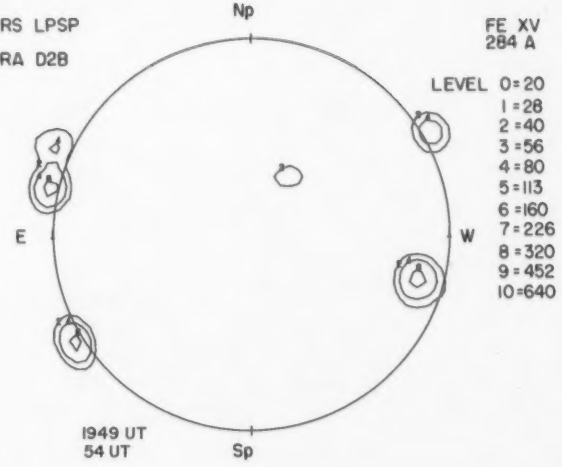
1640 UT

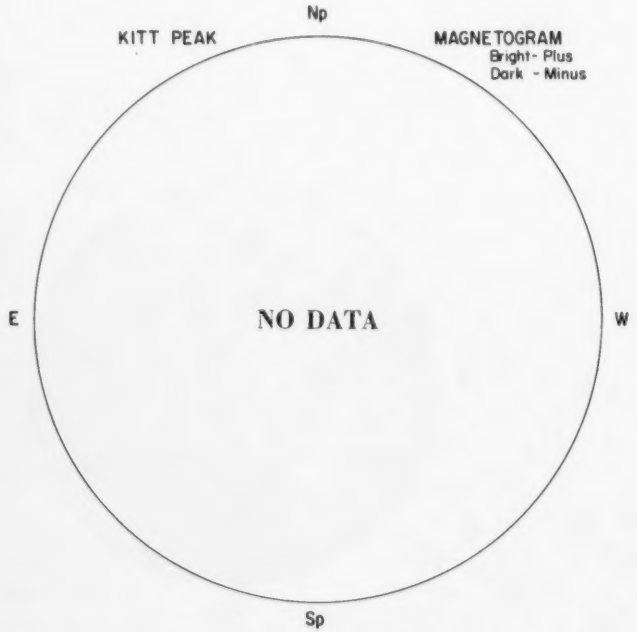
Ant. Temp. Unit 100°K

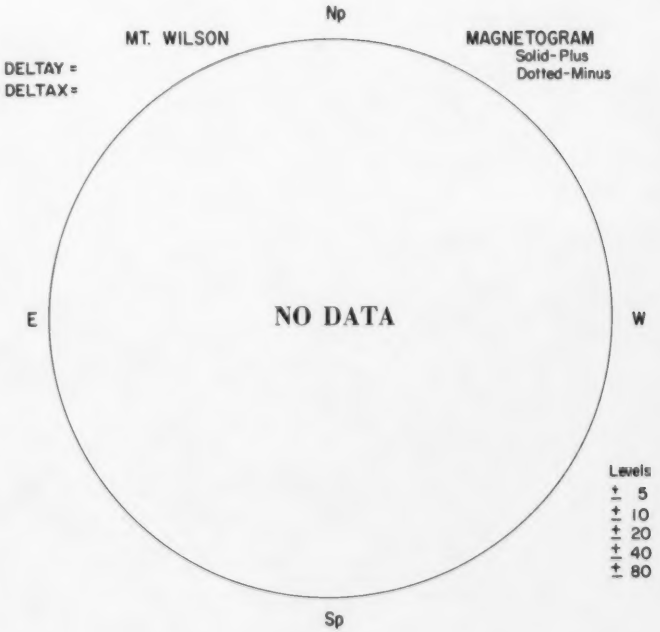
71
Sep 76

SEPTEMBER 24, 1976 (P = 25.40, B_0 = 6.98, L_0 = 223.05)



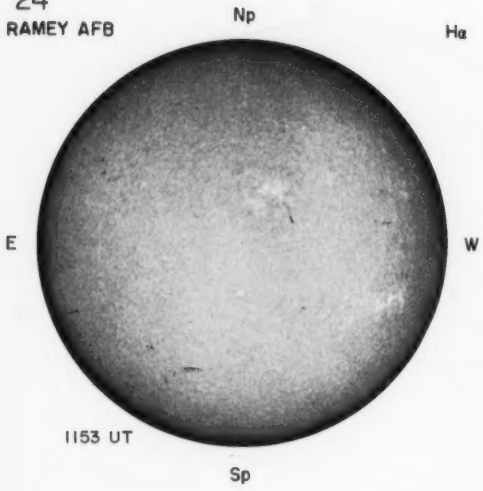






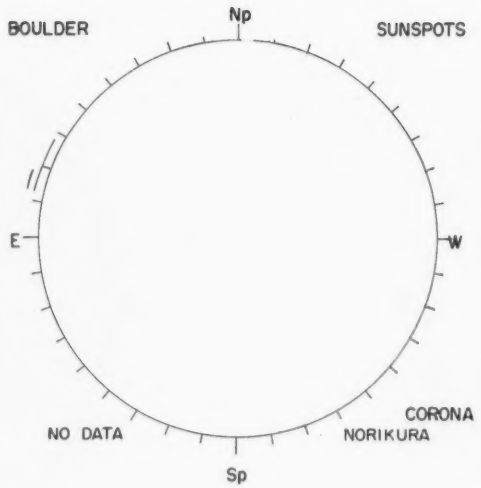
24

RAMEY AFB



Hα

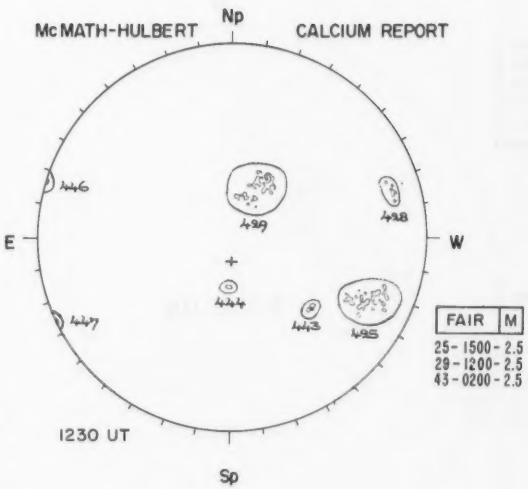
BOULDER



SUNSPOTS

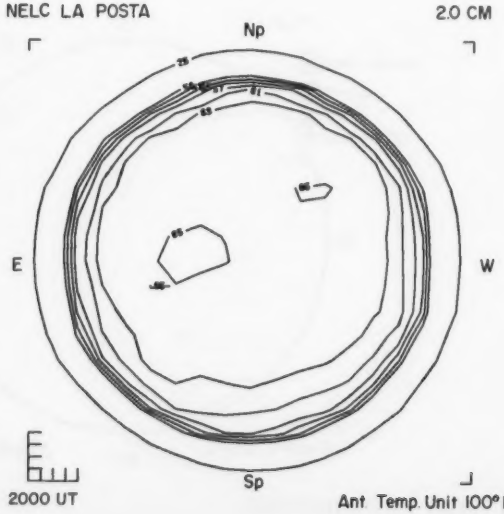
McMATH-HULBERT

CALCIUM REPORT



NELC LA POSTA

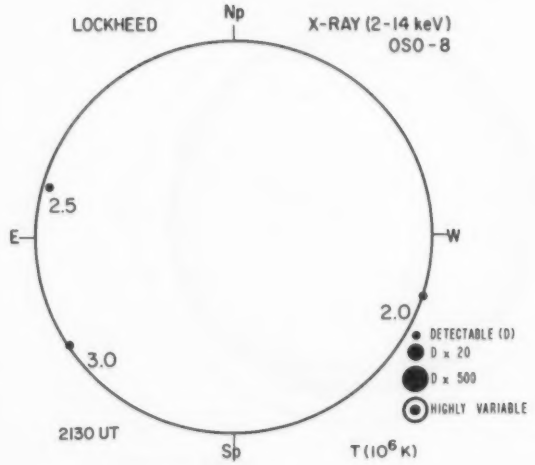
2.0 CM

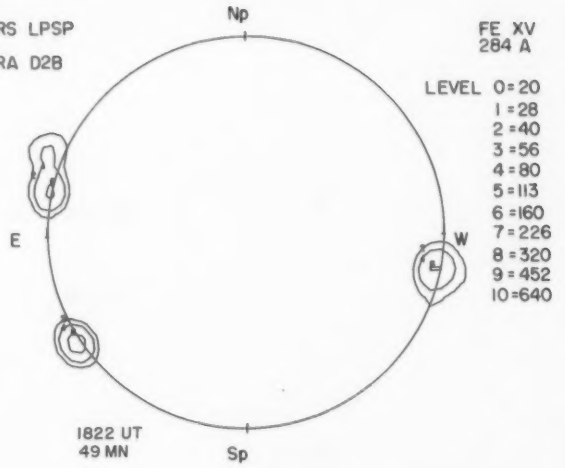


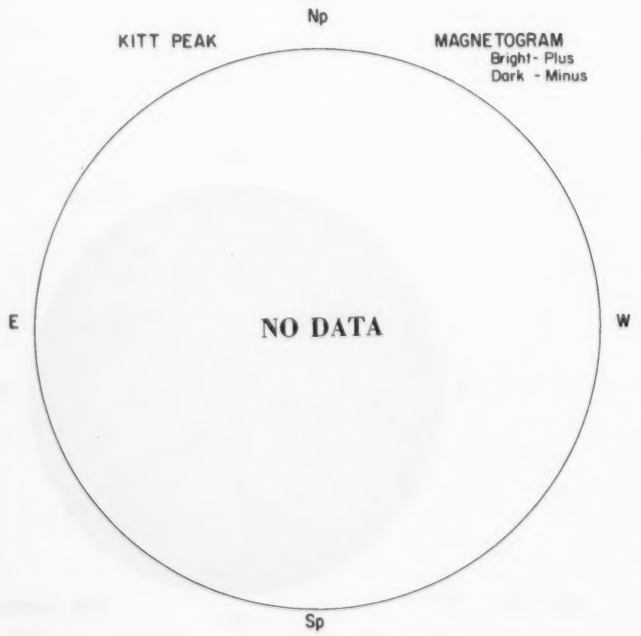
NELC LA POSTA

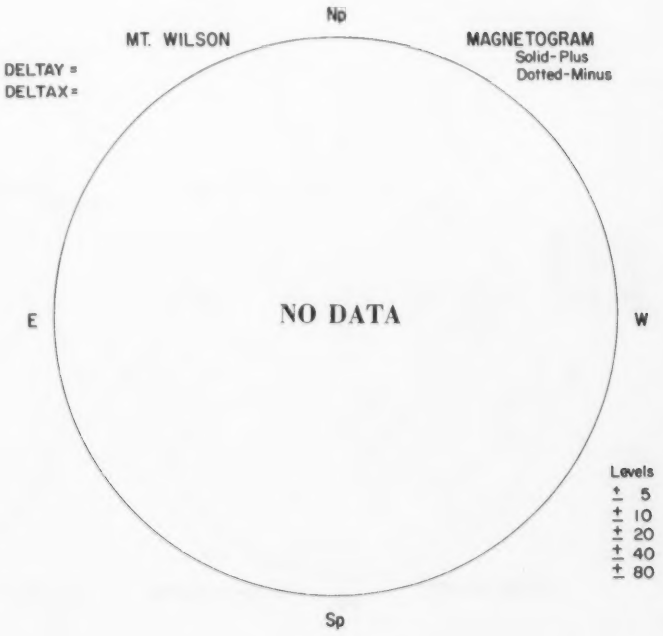
8.6 MM

SEPTEMBER 25, 1976 (P = 25.51, B_o = 6.95, L_o = 209.85)



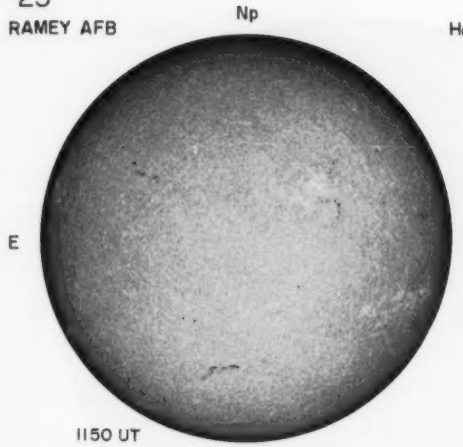






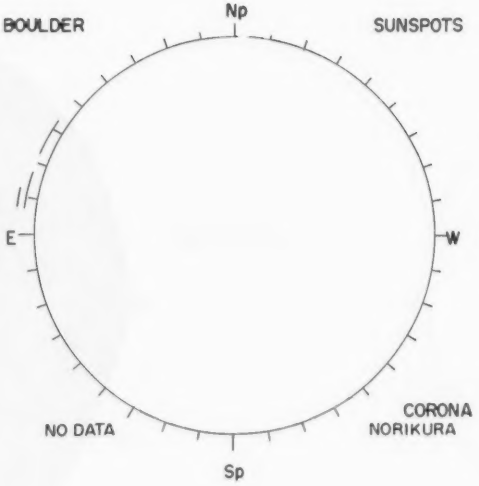
25

RAMEY AFB



Hα

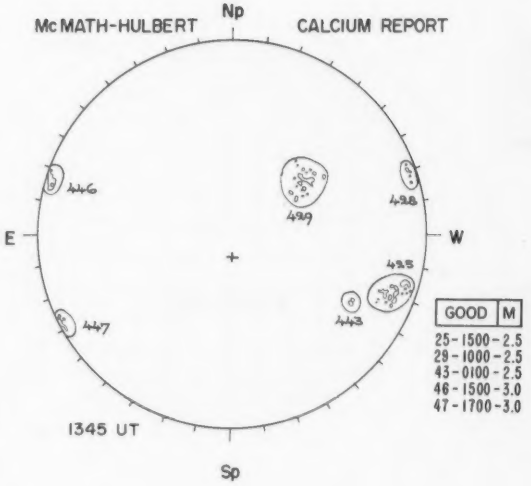
BOULDER



SUNSPOTS

McMATH-HULBERT

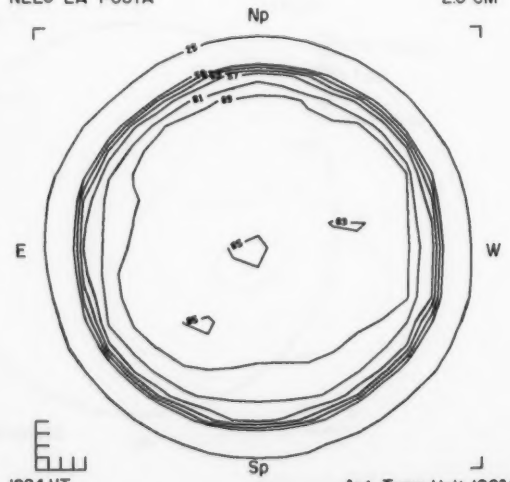
CALCIUM REPORT



GOOD	M
25 - 1500 - 2.5	
29 - 1000 - 2.5	
43 - 0100 - 2.5	
46 - 1500 - 3.0	
47 - 1700 - 3.0	

NELC LA POSTA

2.0 CM

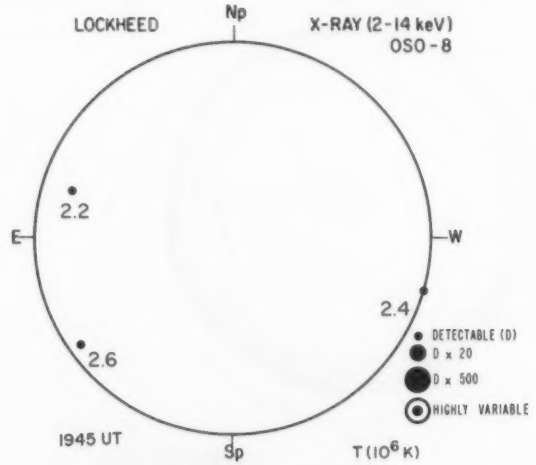


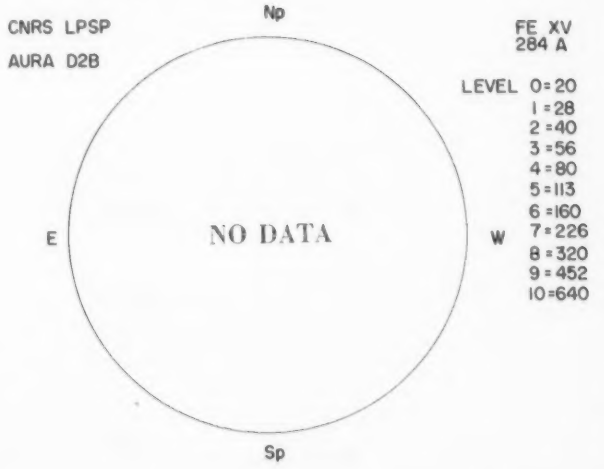
NELC LA POSTA

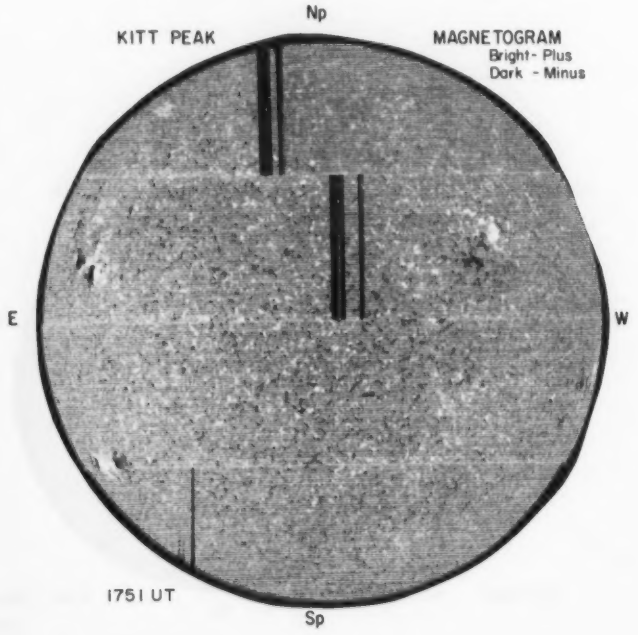
8.6 MM

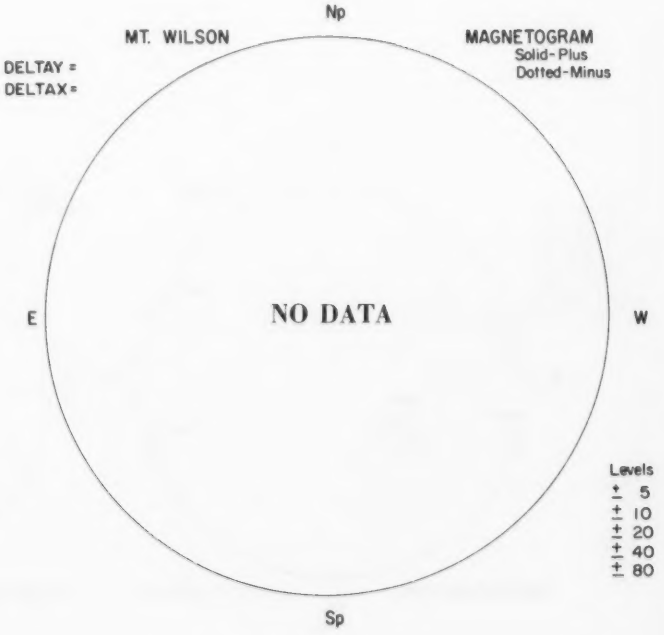
75
Sep 76

SEPTEMBER 26, 1976 (P = 25.61, B_o = 6.91, L_o = 196.65)

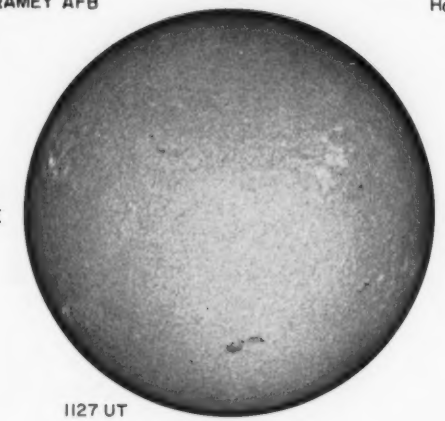






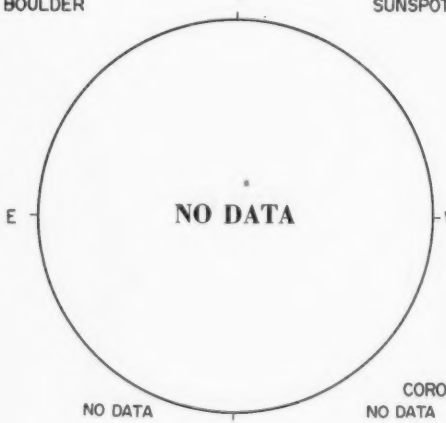


RAMEY AFB



1127 UT

Hα BOULDER



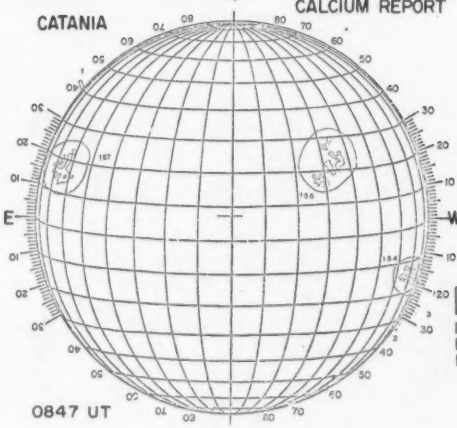
NO DATA

SUNSPOTS

CORONA

NO DATA

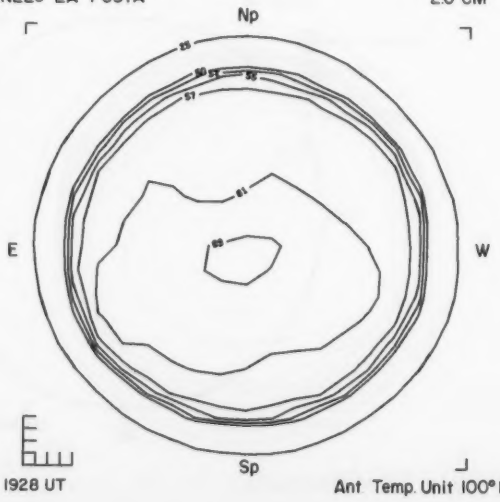
CATANIA CALCIUM REPORT



0847 UT

FAIR	SS
154 - 3098	---
156 - 1461	---
157 - 2140	---

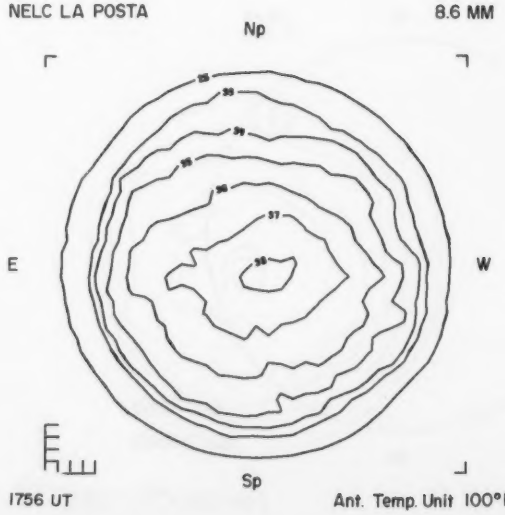
NELC LA POSTA 2.0 CM



1928 UT

Ant. Temp. Unit 100°K

NELC LA POSTA 8.6 MM

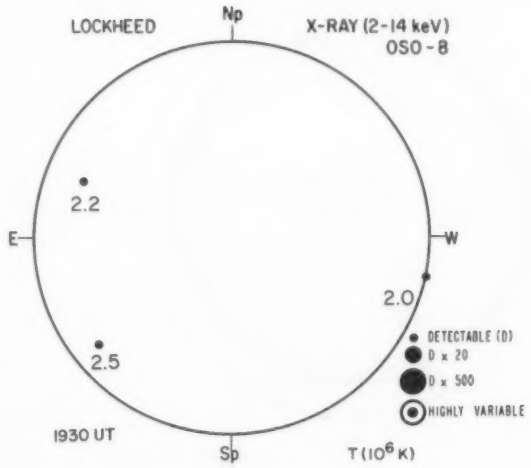


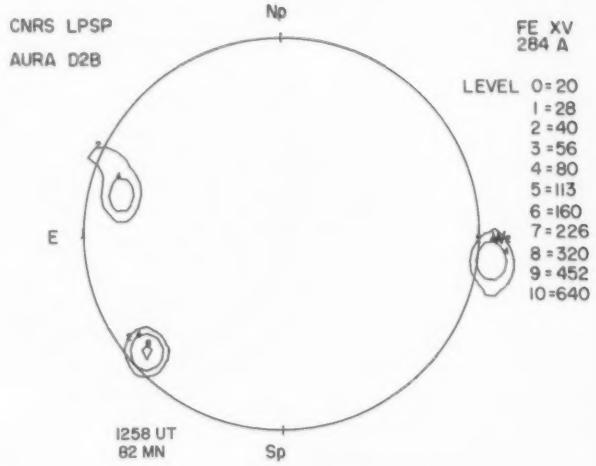
1756 UT

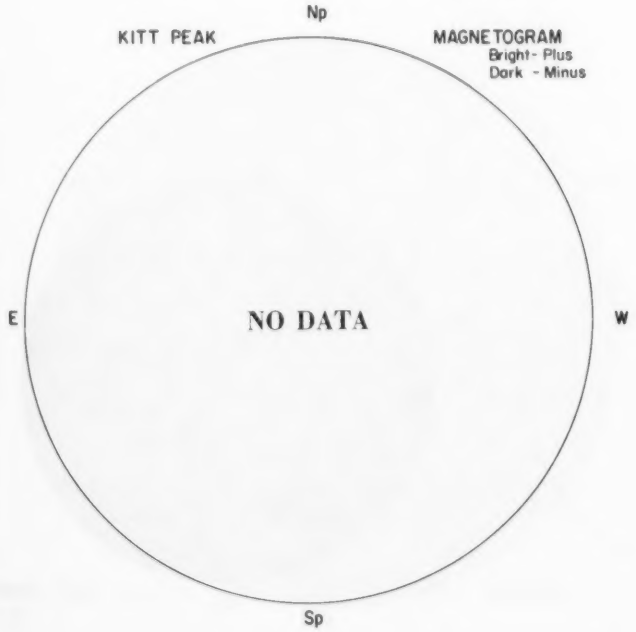
Ant. Temp. Unit 100°K

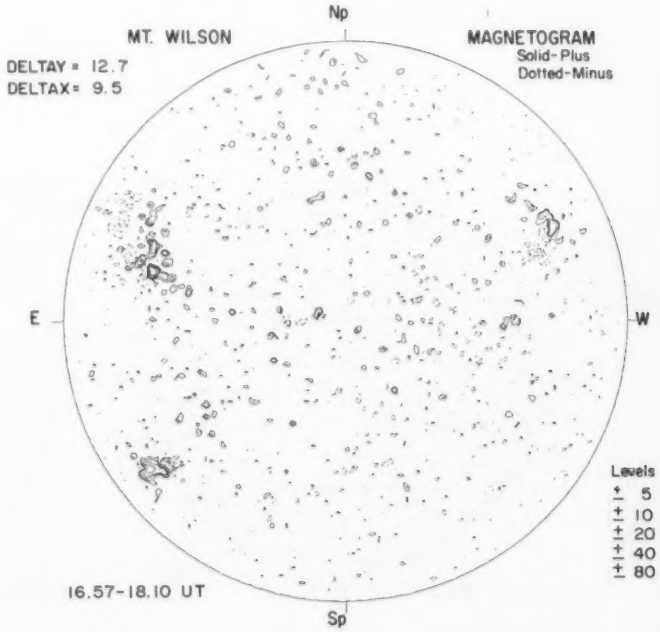
77 Sep 76

SEPTEMBER 27, 1976 (P = 25.71, B_0 = 6.87, L_0 = 183.46)



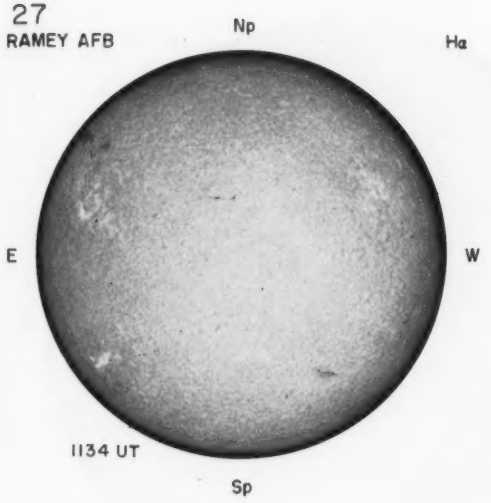




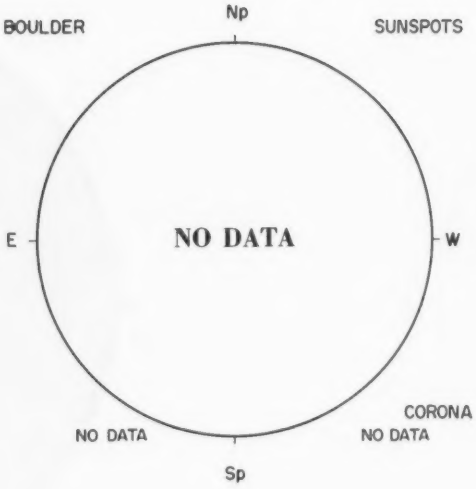


27

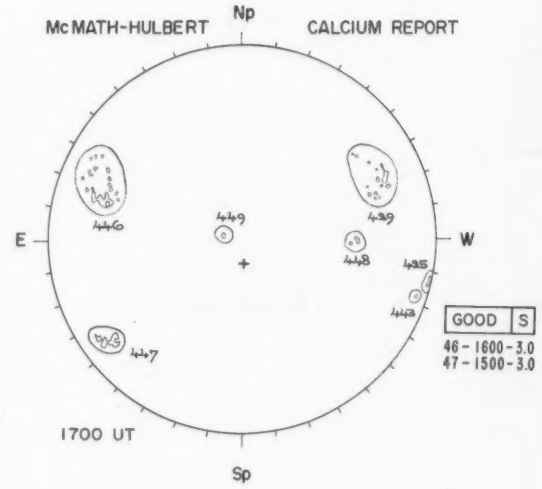
RAMEY AFB



Hα BOULDER



SUNSPOTS

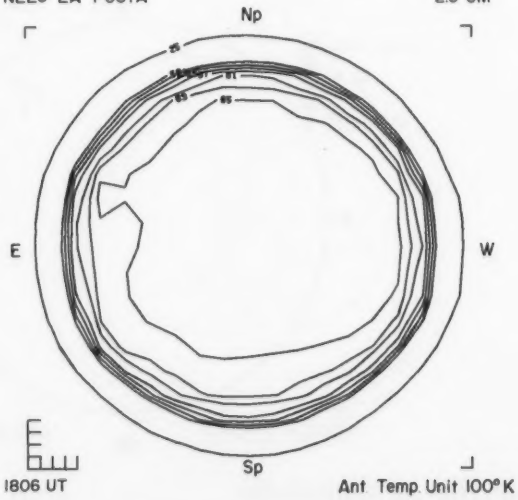


CORONA

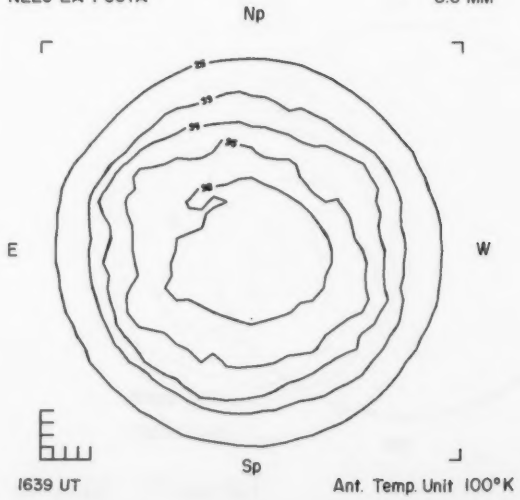
NO DATA

McMATH-HULBERT CALCIUM REPORT

NELC LA POSTA 2.0 CM

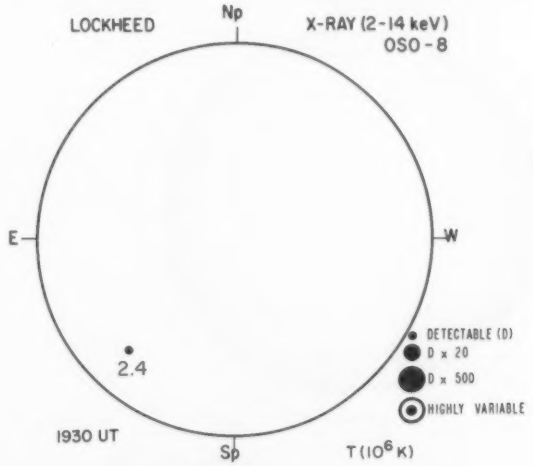


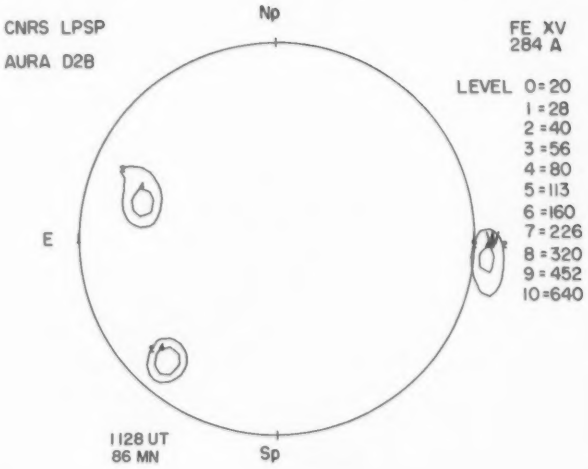
NELC LA POSTA 8.6 MM

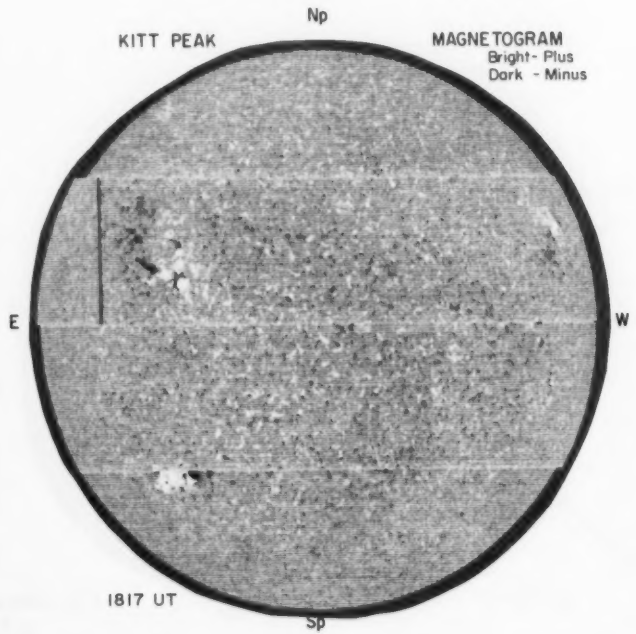


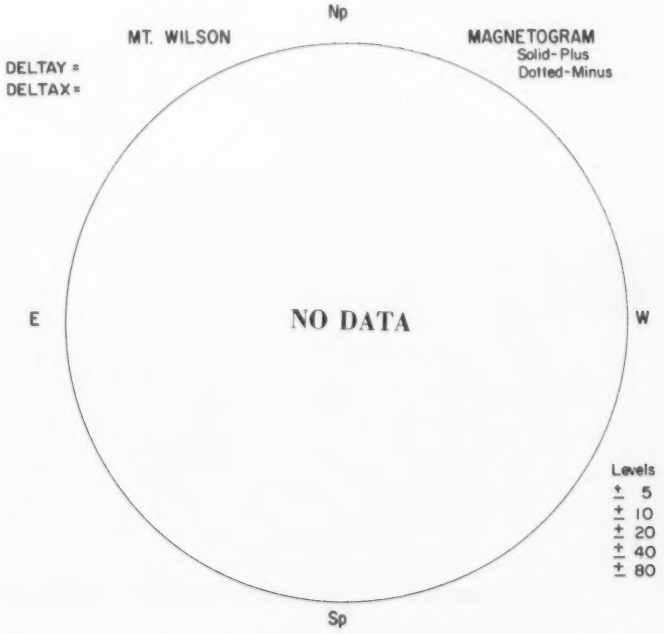
79
Sep 76

SEPTEMBER 28, 1976 (P = 25.80, B_0 = 6.83, L_0 = 170.26)



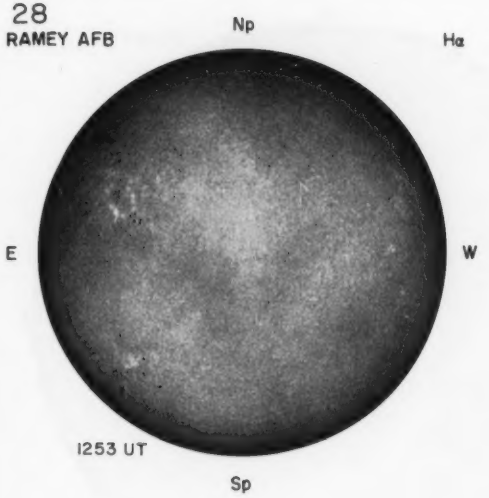




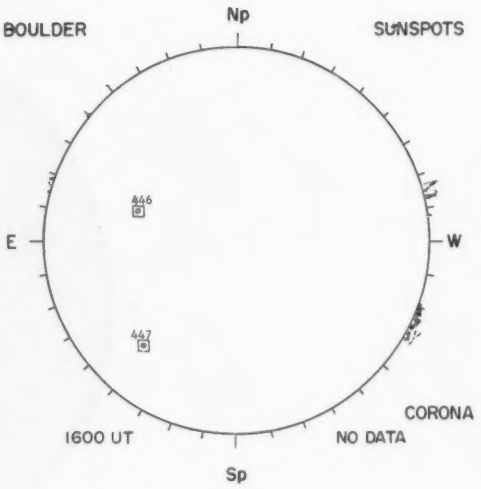


28

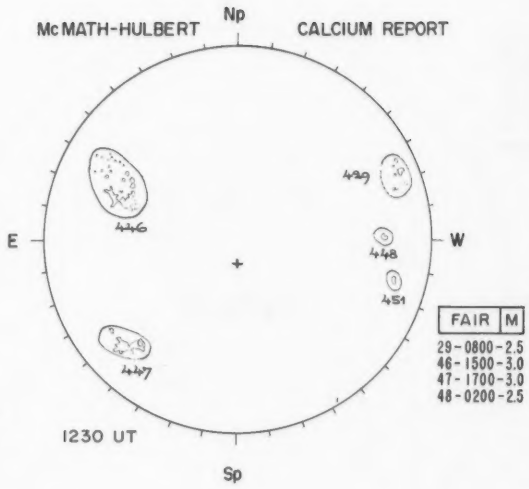
RAMEY AFB



BOULDER SUNSPOTS



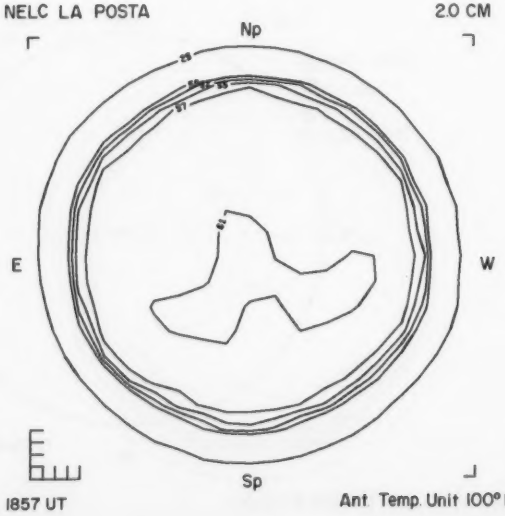
McMATH-HULBERT CALCIUM REPORT



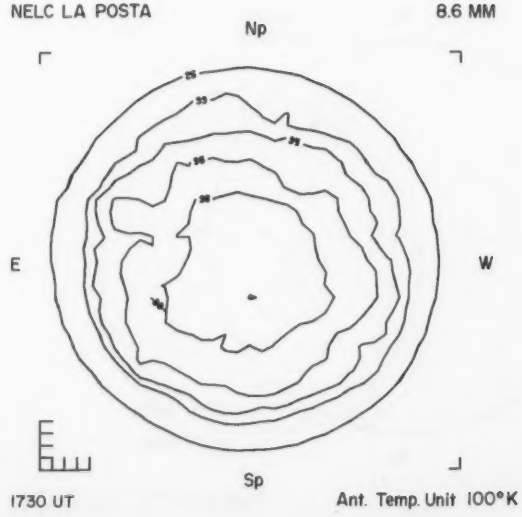
FAIR	M

29-0800-2.5
46-1500-3.0
47-1700-3.0
48-0200-2.5

NELC LA POSTA 2.0 CM



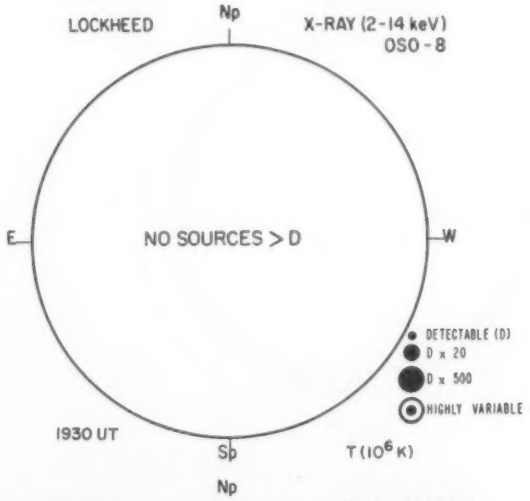
NELC LA POSTA 8.6 MM



SEPTEMBER 29, 1976 (P = 25.88, B_0 = 6.79, L_0 = 157.06)

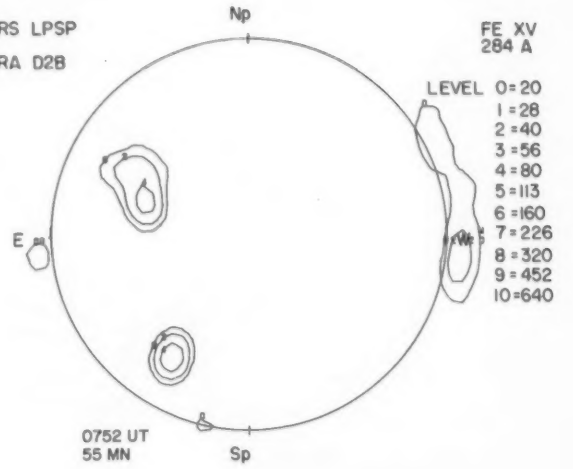
LOCKHEED

X-RAY (2-14 keV)
OSO-8



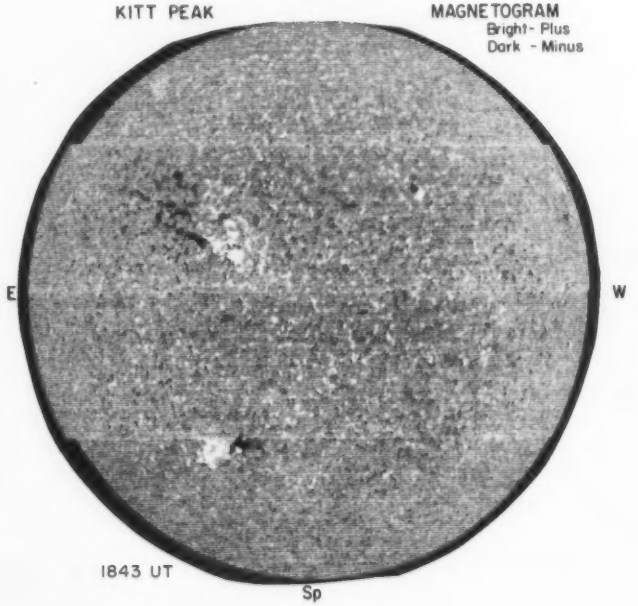
CNRS LPSP
AURA D2B

FE XV
284 A



KITT PEAK

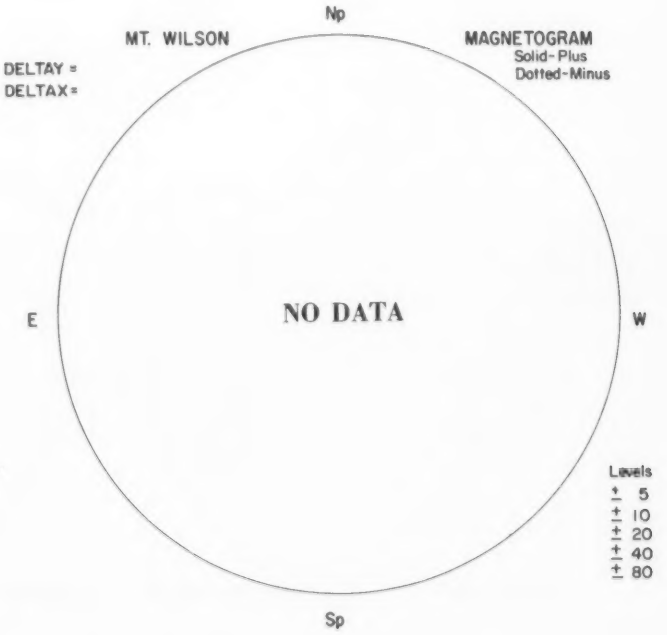
MAGNETOGRAM
Bright - Plus
Dark - Minus



MT. WILSON

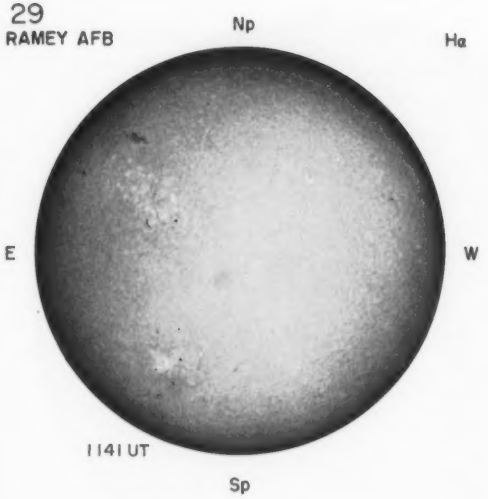
MAGNETOGRAM
Solid - Plus
Dotted - Minus

DELTAY =
DELTAX =



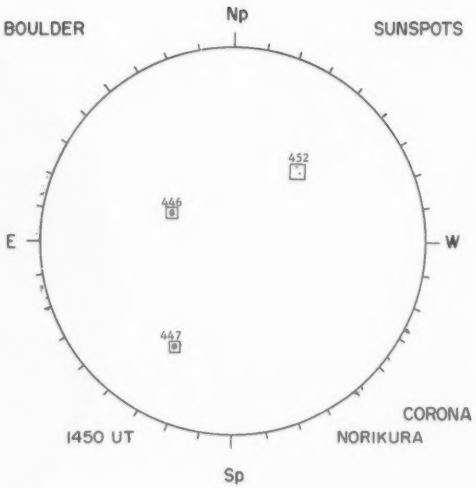
29

RAMEY AFB



Hα

BOULDER

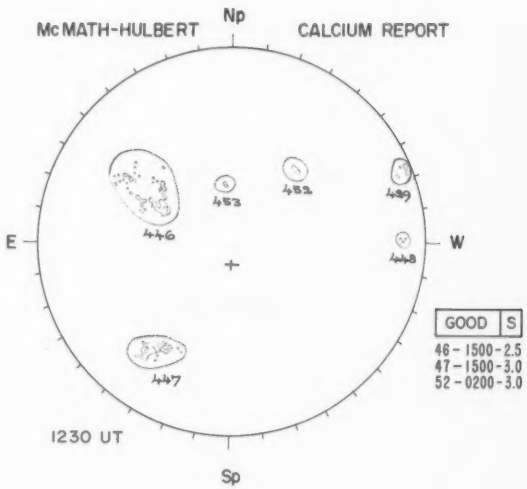


SUNSPOTS

CORONA

NORIKURA

McMATH-HULBERT



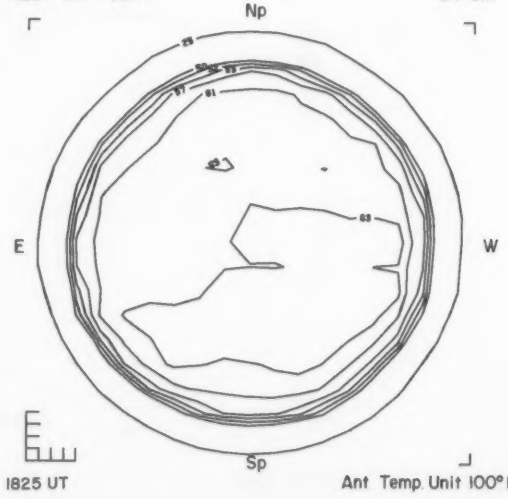
CALCIUM REPORT

GOOD	S

46 - 1500 - 2.5
47 - 1500 - 3.0
52 - 0200 - 3.0

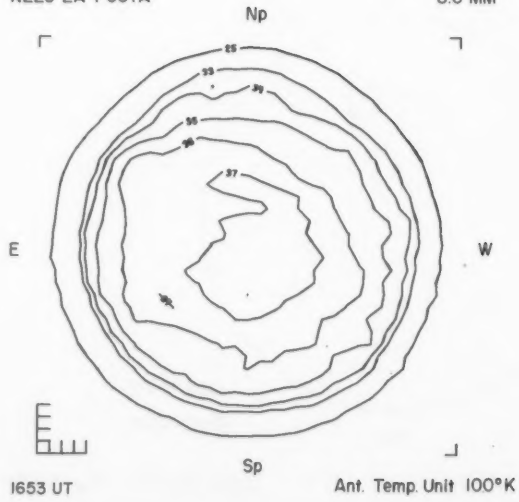
NELC LA POSTA

2.0 CM

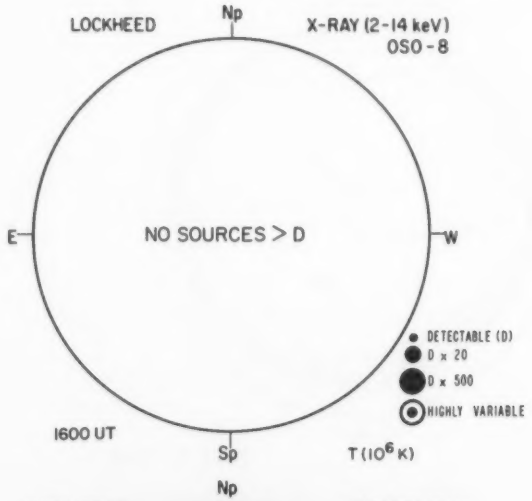


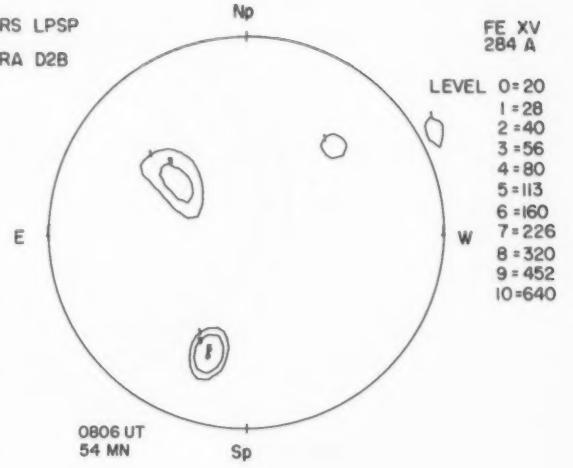
NELC LA POSTA

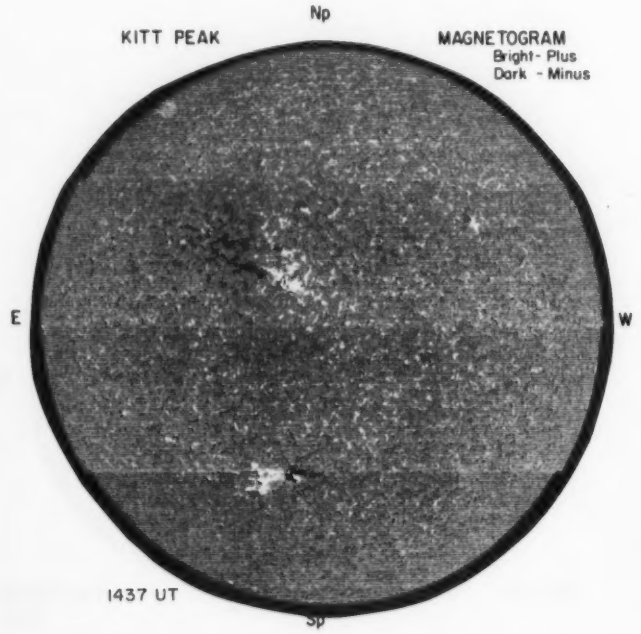
8.6 MM

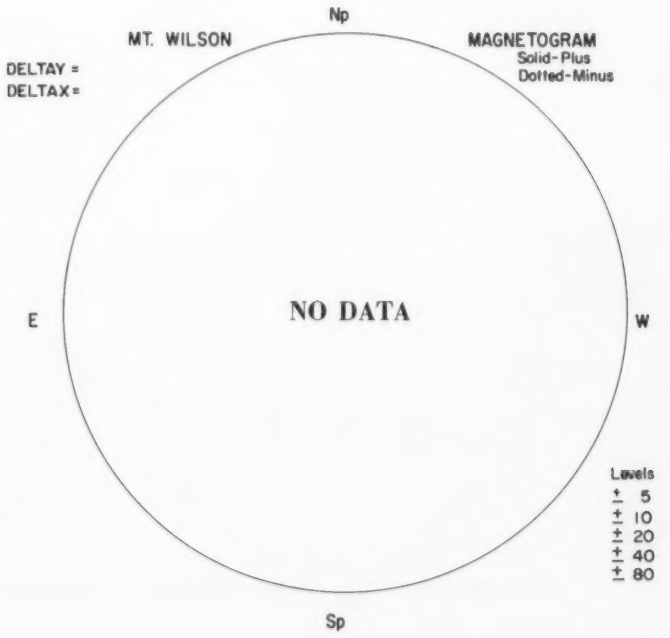


SEPTEMBER 30, 1976 (P = 25.96, B_0 = 6.74, L_0 = 143.87)



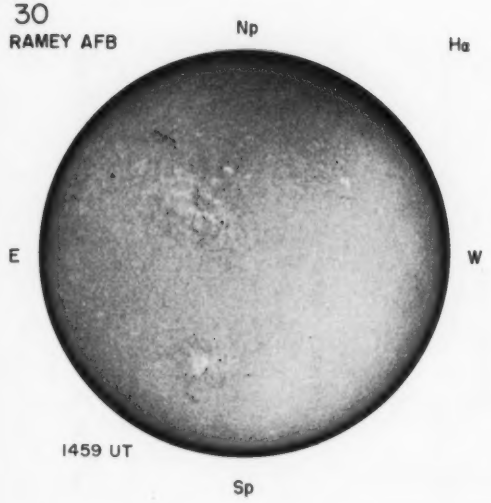






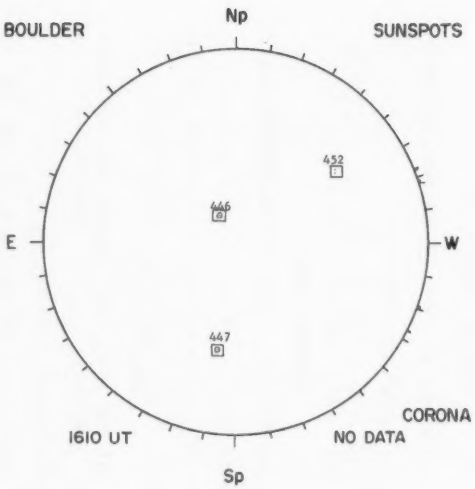
30

RAMEY AFB



1459 UT

Hα BOULDER



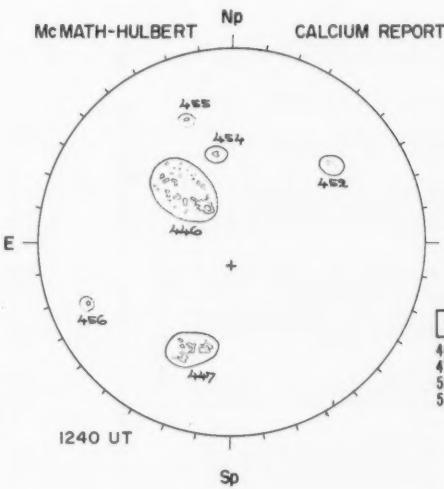
1610 UT

SUNSPOTS

CORONA

NO DATA

McMATH-HULBERT



1240 UT

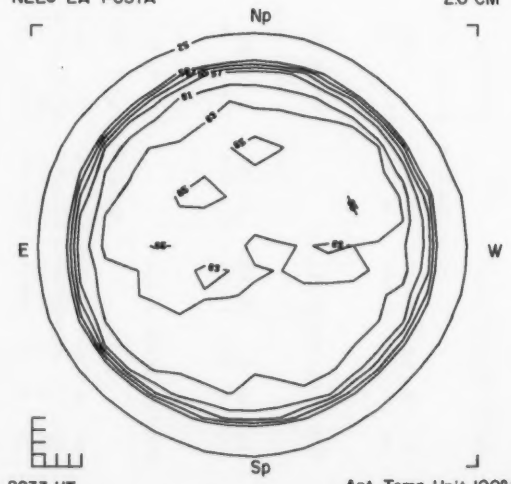
CALCIUM REPORT

GOOD	S

46 - 1400 - 2.5
47 - 1400 - 2.5
52 - 0300 - 3.0
54 - 0100 - 3.0

NELC LA POSTA

2.0 CM

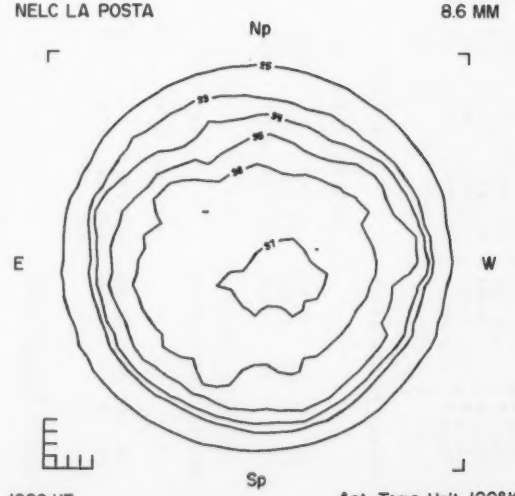


2033 UT

Ant. Temp. Unit 100°K

NELC LA POSTA

8.6 MM



1909 UT

Ant. Temp. Unit 100°K

85
Sep 76

REGIONS OF SOLAR ACTIVITY

SEPTEMBER 1976

MCMATH REGION 14391 CMP DATE 1.0

			CALCIUM PLAGE DATA					SUNSPOT DATA							
YR	MO	DA	MC NO.	LAT CMD	L	AREA	INT	MW NO.	LAT CMD	L	MAG.	H STA	AREA	CNT	CLASS
76	8	26	14391	S30 E76	163	200	1.0								
76	8	27	14391	S30 E60	165	200	1.0								
76	8	28	14391	S29 E44	166	200	1.5								
76	8	29	14391	S28 E32	168	300	1.5								
76	8	30	14391	S29 E19	167	400	1.5								
76	8	31	14391	S29 E08	162	100	1.0								
76	9	1	14391	S29 W12	168	100	1.5								
76	9	2	14391	S29 W21	167	200	1.0								
76	9	3	14391	S29 W35	166	200	1.0								
76	9	4	14391	S28 W49	169	100	1.0								
76	9	5	14391	S28 W62	168	100	1.0								

MCMATH REGION 14396 CMP DATE 1.6

			CALCIUM PLAGE DATA					SUNSPOT DATA							
YR	MO	DA	MC NO.	LAT CMD	L	AREA	INT	MW NO.	LAT CMD	L	MAG.	H STA	AREA	CNT	CLASS
76	8	29	14396	N19 E41	159	200	2.0								
76	8	30	14396	N19 E27	159	200	1.5								

MCMATH REGION 14405 CMP DATE 2.1

			CALCIUM PLAGE DATA					SUNSPOT DATA							
YR	MO	DA	MC NO.	LAT CMD	L	AREA	INT	MW NO.	LAT CMD	L	MAG.	H STA	AREA	CNT	CLASS
76	9	2	14405	N35 W06	152	100	2.0								

MCMATH REGION 14394 CMP DATE 2.6

			CALCIUM PLAGE DATA					SUNSPOT DATA							
YR	MO	DA	MC NO.	LAT CMD	L	AREA	INT	MW NO.	LAT CMD	L	MAG.	H STA	AREA	CNT	CLASS
76	8	28	14394	S31 E65	145	200	2.5								

MCMATH REGION 14400 CMP DATE 2.6

			CALCIUM PLAGE DATA					SUNSPOT DATA							
YR	MO	DA	MC NO.	LAT CMD	L	AREA	INT	MW NO.	LAT CMD	L	MAG.	H STA	AREA	CNT	CLASS
76	8	30	14400	S30 E41	145	100	1.0								

MCMATH REGION 14401 CMP DATE 3.3

			CALCIUM PLAGE DATA					SUNSPOT DATA							
YR	MO	DA	MC NO.	LAT CMD	L	AREA	INT	MW NO.	LAT CMD	L	MAG.	H STA	AREA	CNT	CLASS
76	8	30	14401	S10 E50	136	100	2.0								

MCMATH REGION 14412 CMP DATE 3.6

			CALCIUM PLAGE DATA					SUNSPOT DATA							
YR	MO	DA	MC NO.	LAT CMD	L	AREA	INT	MW NO.	LAT CMD	L	MAG.	H STA	AREA	CNT	CLASS
76	9	6	14412	S29 W40	133	100	1.0								
76	9	7	14412	S28 W54	133	200	2.0								
76	9	8	14412	S28 W67	134	100	1.0								

MCMATH REGION 14413 CMP DATE 4.1

			CALCIUM PLAGE DATA					SUNSPOT DATA							
YR	MO	DA	MC NO.	LAT CMD	L	AREA	INT	MW NO.	LAT CMD	L	MAG.	H STA	AREA	CNT	CLASS
76	9	7	14413	N34 W45	124	200	2.5								
76	9	8	14413	N35 W56	123	300	2.0								
76	9	9	14413	N35 W70	123	100	1.0								

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SEPTEMBER 1976

MCMATH REGION 14395 CMP DATE 4.4 RETURN OF REGION 14352 ROTATION 2

CALCIUM PLAGE DATA								SUNSPOT DATA							
YR	MO	DA	MC NO.	LAT CMD	L	AREA	INT	MW NO.	LAT CMD	L	MAG.	H	STA	AREA	CNT	CLASS
76	8	28	14395	N20 E86	124	1800	2.0	19713	N16 E80	132	X		B	60	1	HSX
76	8	29	14395	N22 E77	123	1800	2.0	19713	N15 E70	129	(AF)	5	B	80	1	HSX
76	8	30	14395	N20 E60	126	1800	3.0	19713	N17 E57	129	(AF)	5	B	190	1	HSX
76	8	31	14395	N21 E51	119	1800	2.0	19713	N17 E43	130	(AF)	6	R	200	1	HHX
76	9	1	14395	N22 E34	122	1600	2.0	19713	N17 E30	128	(AF)	5	B	170	1	HSX
76	9	2	14395	N21 E24	122	1700	2.5	19713	N16 E17	128	(AF)	6	B	170	1	HSX
76	9	3	14395	N21 E11	122	1800	3.5	19713	N16 E05	127	(AF)	6	B	170	6	CSO
76	9	4	14395	N20 W04	124	1700	3.0	19713	N16 W09	128	(BF)	6	B	220	5	CSO
76	9	5	14395	N20 W17	123	1700	2.5	19713	N16 W22	127	(AF)	5	B	240	4	CSO
76	9	6	14395	N20 W31	124	1700	2.5	19713	N16 W35	128	(AF)	5	B	170	1	HSX
76	9	7	14395	N20 W43	122	1900	3.0	19713	N16 W49	127	(AF)	5	B	170	1	HSX
76	9	8	14395	N20 W57	124	2000	3.5	19713	N16 W62	127	(AF)	5	R	170	1	HSX
76	9	9	14395	N20 W71	124	1800	2.5		N16 W77				B	130	1	HSX
76	9	10	14395	N20 W82	123	1400	2.0									
76	9	11	14395	N22 W90	117	600	1.0									

MCMATH REGION 14402 CMP DATE 4.9

CALCIUM PLAGE DATA								SUNSPOT DATA							
YR	MO	DA	MC NO.	LAT CMD	L	AREA	INT	MW NO.	LAT CMD	L	MAG.	H	STA	AREA	CNT	CLASS
76	8	30	14402	S14 E67	119	200	2.0									
76	8	31	14402	S14 E55	115	100	1.5									

MCMATH REGION 14404 CMP DATE 6.4

CALCIUM PLAGE DATA								SUNSPOT DATA							
YR	MO	DA	MC NO.	LAT CMD	L	AREA	INT	MW NO.	LAT CMD	L	MAG.	H	STA	AREA	CNT	CLASS
76	9	1	14404	S19 E60	96	100	1.0									

MCMATH REGION 14417 CMP DATE 6.5

CALCIUM PLAGE DATA								SUNSPOT DATA							
YR	MO	DA	MC NO.	LAT CMD	L	AREA	INT	MW NO.	LAT CMD	L	MAG.	H	STA	AREA	CNT	CLASS
76	9	9	14417	S24 W41	94	100	1.5									
76	9	10	14417	S24 W54	95	100	2.0									

MCMATH REGION 14407 CMP DATE 7.2

CALCIUM PLAGE DATA								SUNSPOT DATA							
YR	MO	DA	MC NO.	LAT CMD	L	AREA	INT	MW NO.	LAT CMD	L	MAG.	H	STA	AREA	CNT	CLASS
76	9	4	14407	N03 E37	83	200	2.5	19715	N05 E34	85	A	1	B	10	1	AXX
76	9	5	14407	N04 E24	82	300	2.5	19715	N05 E19	86	A	1	B	10	2	BXO
76	9	6	14407	N04 E08	85	200	1.5									
76	9	7	14407	N04 W05	84	200	2.0									
76	9	8	14407	N05 W19	86	200	2.0									
76	9	9	14407	N05 W32	85	200	1.0									

MCMATH REGION 14406 CMP DATE 7.8

CALCIUM PLAGE DATA								SUNSPOT DATA							
YR	MO	DA	MC NO.	LAT CMD	L	AREA	INT	MW NO.	LAT CMD	L	MAG.	H	STA	AREA	CNT	CLASS
76	9	2	14406	S11 E70	76	100	1.5									

MCMATH REGION 14421 CMP DATE 8.3

CALCIUM PLAGE DATA								SUNSPOT DATA							
YR	MO	DA	MC NO.	LAT CMD	L	AREA	INT	MW NO.	LAT CMD	L	MAG.	H	STA	AREA	CNT	CLASS
76	9	13	14421	N21 W69	70	100	1.0									

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MCMATH REGION 14420 CMP DATE 8.6

				CALCIUM PLAGE DATA				SUNSPOT DATA						
YR	MO	DA	MC NO.	LAT CMD	L	AREA	INT	MW NO.	LAT CMD	L	MAG.	H STA	AREA	CNT CLASS
76	9	12	14420	N27 W51	65	200	1.5							
76	9	13	14420	N28 W64	65	100	1.0							

MCMATH REGION 14410 CMP DATE 9.4

				CALCIUM PLAGE DATA				SUNSPOT DATA						
YR	MO	DA	MC NO.	LAT CMD	L	AREA	INT	MW NO.	LAT CMD	L	MAG.	H STA	AREA	CNT CLASS
76	9	6	14410	N18 E38	55	100	2.0							
76	9	7	14410	N18 E24	55	100	1.5							

MCMATH REGION 14415 CMP DATE 10.3

				CALCIUM PLAGE DATA				SUNSPOT DATA						
YR	MO	DA	MC NO.	LAT CMD	L	AREA	INT	MW NO.	LAT CMD	L	MAG.	H STA	AREA	CNT CLASS
76	9	6	14415	N02 E52	41	100	1.0							
76	9	7	14415	N02 E38	41	200	2.5							
76	9	8	14415	N02 E25	42	200	2.0							
76	9	9	14415	N02 E10	43	100	1.0							

MCMATH REGION 14423 CMP DATE 10.3

				CALCIUM PLAGE DATA				SUNSPOT DATA						
YR	MO	DA	MC NO.	LAT CMD	L	AREA	INT	MW NO.	LAT CMD	L	MAG.	H STA	AREA	CNT CLASS
76	9	14	14423	S01 W56	45	200	2.5							
76	9	15						19718	S02 W74	48		1		

MCMATH REGION 14409 CMP DATE 11.6 RETURN OF REGION 14366 ROTATION 2

				CALCIUM PLAGE DATA				SUNSPOT DATA						
YR	MO	DA	MC NO.	LAT CMD	L	AREA	INT	MW NO.	LAT CMD	L	MAG.	H STA	AREA	CNT CLASS
76	9	5	14409	S05 E82	24	300	1.0							
76	9	6	14409	S06 E67	26	300	1.0							
76	9	7	14409	S05 E54	25	400	1.5							
76	9	8	14409	S04 E42	25	300	1.5							
76	9	9	14409	S06 E27	26	300	1.0							

MCMATH REGION 14416 CMP DATE 11.6

				CALCIUM PLAGE DATA				SUNSPOT DATA						
YR	MO	DA	MC NO.	LAT CMD	L	AREA	INT	MW NO.	LAT CMD	L	MAG.	H STA	AREA	CNT CLASS
76	9	8	14416	S22 E42	25	300	3.0							
76	9	9	14416	S22 E28	25	500	3.0		S22 E25			B	40	13 CRI
76	9	10	14416	S22 E15	26	700	3.5		S21 E12			B	100	11 DSI
76	9	11	14416	S22 E01	26	1300	4.0		S21 W02			B	140	38 DSI
76	9	12	14416	S22 W12	26	1600	4.0	19716	S24 W19	31	(B)	3 B	10	3 BXO
76	9							19717	S20 W15	27	(BP)	4 B	140	17 DSI
76	9	13	14416	S22 W27	28	2000	4.0	19717	S21 W28	27	(BP)	4 B	140	20 DSI
76	9								S21 W29			B	60	9 CRO
76	9	14	14416	S22 W39	28	1800	3.5	19717	S21 W43	30	(BP)	4 B	40	6 CRO
76	9								S22 W48			B	0	1 AXX
76	9	15						19717	S20 W59	33	(AP)	3 R	30	2 HRX
76	9	17	14416	S24 W82	28	1200	2.5							

MCMATH REGION 14408 CMP DATE 11.8

				CALCIUM PLAGE DATA				SUNSPOT DATA						
YR	MO	DA	MC NO.	LAT CMD	L	AREA	INT	MW NO.	LAT CMD	L	MAG.	H STA	AREA	CNT CLASS
76	9	5	14408	N12 E89	17	500	2.0							

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MCMATH REGION 14408 (CONT) CMP DATE 11.8

				CALCIUM PLAGE DATA				SUNSPOT DATA						
YR	MO	DA	MC NO.	LAT CMD	L	AREA	INT	MW NO.	LAT CMD	L	MAG.	H STA	AREA	CNT CLASS
76	9	5	14408	N12 E89	17	500	2.0							
76	9	6	14408	N12 E71	22	400	2.5							
76	9	7	14408	N13 E58	21	500	2.5							
76	9	8	14408	N13 E44	23	500	2.0							
76	9	9	14408	N13 E31	22	500	2.0							
76	9	10	14408	N13 E17	24	300	2.5							
76	9	11	14408	N13 E03	24	300	2.5							
76	9	12	14408	N13 W10	24	300	2.5							
76	9	13	14408	N13 W24	25	300	2.0							
76	9	14	14408	N14 W37	26	400	2.0							
76	9	17	14408	N13 W80	26	200	1.0							

MCMATH REGION 14424 CMP DATE 11.9

				CALCIUM PLAGE DATA				SUNSPOT DATA						
YR	MO	DA	MC NO.	LAT CMD	L	AREA	INT	MW NO.	LAT CMD	L	MAG.	H STA	AREA	CNT CLASS
76	9	14	14424	N30 W35	24	100	2.0							

MCMATH REGION 14422 CMP DATE 13.4

				CALCIUM PLAGE DATA				SUNSPOT DATA						
YR	MO	DA	MC NO.	LAT CMD	L	AREA	INT	MW NO.	LAT CMD	L	MAG.	H STA	AREA	CNT CLASS
76	9	13	14422	S17 W01	2	100	1.5							

MCMATH REGION 14430 CMP DATE 13.6

				CALCIUM PLAGE DATA				SUNSPOT DATA						
YR	MO	DA	MC NO.	LAT CMD	L	AREA	INT	MW NO.	LAT CMD	L	MAG.	H STA	AREA	CNT CLASS
76	9	18	14430	N26 W65	0	300	2.0							
76	9	19	14430	N26 W79	2	300	2.0							

MCMATH REGION 14426 CMP DATE 15.8

				CALCIUM PLAGE DATA				SUNSPOT DATA						
YR	MO	DA	MC NO.	LAT CMD	L	AREA	INT	MW NO.	LAT CMD	L	MAG.	H STA	AREA	CNT CLASS
76	9	17	14426	N25 W26	332	100	1.5							
76	9	18	14426	N25 W37	332	100	1.5							
76	9	19	14426	N26 W50	333	200	1.0							

MCMATH REGION 14419 CMP DATE 15.9

				CALCIUM PLAGE DATA				SUNSPOT DATA						
YR	MO	DA	MC NO.	LAT CMD	L	AREA	INT	MW NO.	LAT CMD	L	MAG.	H STA	AREA	CNT CLASS
76	9	11	14419	N05 E58	330	200	1.5							
76	9	12	14419	N05 E46	329	300	2.0							
76	9	13	14419	N04 E32	330	400	1.5							
76	9	14	14419	N04 E18	331	200	1.0							

MCMATH REGION 14433 CMP DATE 15.9

				CALCIUM PLAGE DATA				SUNSPOT DATA						
YR	MO	DA	MC NO.	LAT CMD	L	AREA	INT	MW NO.	LAT CMD	L	MAG.	H STA	AREA	CNT CLASS
76	9	19	14433	S36 W48	331	100	1.0							

MCMATH REGION 14418 CMP DATE 16.1

				CALCIUM PLAGE DATA				SUNSPOT DATA						
YR	MO	DA	MC NO.	LAT CMD	L	AREA	INT	MW NO.	LAT CMD	L	MAG.	H STA	AREA	CNT CLASS
76	9	10	14418	N04 E73	329	200	1.5							

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MCMATH REGION 14441 CMP DATE 17.2

				CALCIUM PLAGE DATA				SUNSPOT DATA								
YR	MO	DA	MC NO.	LAT CMD	L	AREA	INT	MW NO.	LAT CMD	L	MAG.	H	STA	AREA	CNT	CLASS
76	9	23	14441	N25 W84	314	600	3.5									

MCMATH REGION 14431 CMP DATE 17.3

				CALCIUM PLAGE DATA				SUNSPOT DATA								
YR	MO	DA	MC NO.	LAT CMD	L	AREA	INT	MW NO.	LAT CMD	L	MAG.	H	STA	AREA	CNT	CLASS
76	9	18	14431	N30 W16	311	100	1.0									

MCMATH REGION 14432 CMP DATE 18.4

				CALCIUM PLAGE DATA				SUNSPOT DATA								
YR	MO	DA	MC NO.	LAT CMD	L	AREA	INT	MW NO.	LAT CMD	L	MAG.	H	STA	AREA	CNT	CLASS
76	9	18	14432	N53 W02	297	100	2.5									

MCMATH REGION 14428 CMP DATE 19.9

				CALCIUM PLAGE DATA				SUNSPOT DATA								
YR	MO	DA	MC NO.	LAT CMD	L	AREA	INT	MW NO.	LAT CMD	L	MAG.	H	STA	AREA	CNT	CLASS
76	9	17	14428	N21 E30	276	100	2.0									
76	9	18	14428	N21 E19	276	200	3.0	19720	N20 E17	277	(AP)	4	B	10	1	AXX
76	9	19	14428	N19 E05	278	300	2.5	19720	N19 E04	277	(BP)	4	R	10	2	BXO
76	9	20	14428	N19 W12	278	300	2.5									
76	9	21	14428	N19 W22	279	300	2.0									
76	9	22	14428	N19 W35	278	400	2.0									
76	9	23	14428	N19 W48	278	300	1.5									
76	9	24	14428	N19 W61	278	300	1.0									
76	9	25	14428	N20 W75	278	300	1.0									

MCMATH REGION 14427 CMP DATE 20.5

				CALCIUM PLAGE DATA				SUNSPOT DATA								
YR	MO	DA	MC NO.	LAT CMD	L	AREA	INT	MW NO.	LAT CMD	L	MAG.	H	STA	AREA	CNT	CLASS
76	9	17	14427	S41 E36	270	100	1.5									

MCMATH REGION 14425 CMP DATE 21.0

				CALCIUM PLAGE DATA				SUNSPOT DATA								
YR	MO	DA	MC NO.	LAT CMD	L	AREA	INT	MW NO.	LAT CMD	L	MAG.	H	STA	AREA	CNT	CLASS
76	9	14	14425	S11 E85	264	600	1.0		S13 E80				B	0	1	AXX
76	9	15						19719	S12 E70	264	B	2	R	20	3	BXO
76	9	16							S12 E58				B	10	2	CRO
76	9	17	14425	S12 E43	263	1400	3.5	19719	S12 E45	262	(B)	3	B	20	3	CRO
76	9	18	14425	S12 E32	263	1600	3.5	19719	S13 E33	261	(AF)	4	B	10	1	AXX
76	9	19	14425	S12 E19	264	1800	3.5									
76	9	20	14425	S12 E03	263	1600	3.0									
76	9	21	14425	S12 W09	266	1500	3.0									
76	9	22	14425	S12 W22	265	1300	3.0									
76	9	23	14425	S13 W35	265	1500	2.5									
76	9	24	14425	S13 W48	265	1500	2.5									
76	9	25	14425	S13 W61	264	1500	2.5									
76	9	27	14425	S12 W84	258	300	1.0									

MCMATH REGION 14443 CMP DATE 22.6

				CALCIUM PLAGE DATA				SUNSPOT DATA								
YR	MO	DA	MC NO.	LAT CMD	L	AREA	INT	MW NO.	LAT CMD	L	MAG.	H	STA	AREA	CNT	CLASS
76	9	24	14443	S15 W25	242	200	2.5									
76	9	25	14443	S15 W39	242	100	2.5									
76	9	27	14443	S15 W68	242	100	1.0									

REGIONS OF SOLAR ACTIVITY

SEPTEMBER 1976

MCMATH REGION 14436 CMP DATE 23.2

				CALCIUM PLAGE DATA				SUNSPOT DATA							
YR	MO	DA	MC NO.	LAT CMD	L	AREA	INT	MW NO.	LAT CMD	L	MAG.	H	STA	AREA	CNT CLASS
76	9	20	14436	N08 E32	234	100	1.0								

MCMATH REGION 14429 CMP DATE 23.8 RETURN OF REGION 14403 ROTATION 2

				CALCIUM PLAGE DATA				SUNSPOT DATA							
YR	MO	DA	MC NO.	LAT CMD	L	AREA	INT	MW NO.	LAT CMD	L	MAG.	H	STA	AREA	CNT CLASS
76	9	17	14429	N23 E63	223	1000	3.0								
76	9	18	14429	N23 E70	225	1300	3.0								
76	9	19	14429	N23 E57	226	1000	3.0								
76	9	20	14429	N23 E40	226	900	3.0								
76	9	21	14429	N24 E31	226	1000	2.5								
76	9	22	14429	N24 E18	225	1200	3.0								
76	9	23	14429	N24 E04	226	1100	3.0								
76	9	24	14429	N23 W09	226	1200	2.5								
76	9	25	14429	N23 W23	226	1000	2.5								
76	9	27	14429	N23 W53	227	1000	2.0								
76	9	28	14429	N23 W65	229	800	2.5								
76	9	29	14429	N23 W78	229	600	1.5								

MCMATH REGION 14451 CMP DATE 24.4

				CALCIUM PLAGE DATA				SUNSPOT DATA							
YR	MO	DA	MC NO.	LAT CMD	L	AREA	INT	MW NO.	LAT CMD	L	MAG.	H	STA	AREA	CNT CLASS
76	9	28	14451	S08 W55	219	200	2.0								

MCMATH REGION 14444 CMP DATE 24.6

				CALCIUM PLAGE DATA				SUNSPOT DATA							
YR	MO	DA	MC NO.	LAT CMD	L	AREA	INT	MW NO.	LAT CMD	L	MAG.	H	STA	AREA	CNT CLASS
76	9	24	14444	S08 E01	216	100	2.0								

MCMATH REGION 14435 CMP DATE 24.7

				CALCIUM PLAGE DATA				SUNSPOT DATA							
YR	MO	DA	MC NO.	LAT CMD	L	AREA	INT	MW NO.	LAT CMD	L	MAG.	H	STA	AREA	CNT CLASS
76	9	19	14435	N38 E68	215	100	1.0								

MCMATH REGION 14437 CMP DATE 24.9

				CALCIUM PLAGE DATA				SUNSPOT DATA							
YR	MO	DA	MC NO.	LAT CMD	L	AREA	INT	MW NO.	LAT CMD	L	MAG.	H	STA	AREA	CNT CLASS
76	9	20	14437	N22 E55	211	200	1.5								
76	9	21	14437	N22 E45	212	200	1.5								

MCMATH REGION 14448 CMP DATE 25.0

				CALCIUM PLAGE DATA				SUNSPOT DATA							
YR	MO	DA	MC NO.	LAT CMD	L	AREA	INT	MW NO.	LAT CMD	L	MAG.	H	STA	AREA	CNT CLASS
76	9	27	14448	N05 W36	210	200	1.5								
76	9	28	14448	N05 W49	213	200	2.5								
76	9	29	14448	N05 W63	214	100	1.0								

MCMATH REGION 14440 CMP DATE 25.5

				CALCIUM PLAGE DATA				SUNSPOT DATA							
YR	MO	DA	MC NO.	LAT CMD	L	AREA	INT	MW NO.	LAT CMD	L	MAG.	H	STA	AREA	CNT CLASS
76	9	22	14440	N24 E39	204	100	1.0								

REGIONS OF SOLAR ACTIVITY

SEPTEMBER 1976

MCMATH REGION 14457 CMP DATE 26.2

				CALCIUM PLAGE DATA				SUNSPOT DATA							
YR	MO	DA	MC NO.	LAT CMD	L	AREA	INT	MW NO.	LAT CMD	L	MAG.	H STA	AREA	CNT	CLASS
76	10	1	14457	N03 W69		100	2.0								

MCMATH REGION 14458 CMP DATE 27.6

				CALCIUM PLAGE DATA				SUNSPOT DATA							
YR	MO	DA	MC NO.	LAT CMD	L	AREA	INT	MW NO.	LAT CMD	L	MAG.	H STA	AREA	CNT	CLASS
76	10	1	14458	N23 W51		100	1.5								
76	10	2	14458	N23 W65		200	1.5								
76	10	3	14458	N23 W78		300	1.0								

MCMATH REGION 14452 CMP DATE 27.8

				CALCIUM PLAGE DATA				SUNSPOT DATA							
YR	MO	DA	MC NO.	LAT CMD	L	AREA	INT	MW NO.	LAT CMD	L	MAG.	H STA	AREA	CNT	CLASS
76	9	29	14452	N28 W23	174	200	3.0		N28 W23			B	10	3	BXO
76	9	30	14452	N29 W35	173	300	3.0		N28 W35			B	10	2	BXO
76	10	1	14452	N28 W48		300	3.5								
76	10	2	14452	N28 W63		300	2.0								
76	10	3	14452	N29 W76		300	1.5								

MCMATH REGION 14442 CMP DATE 28.1

				CALCIUM PLAGE DATA				SUNSPOT DATA							
YR	MO	DA	MC NO.	LAT CMD	L	AREA	INT	MW NO.	LAT CMD	L	MAG.	H STA	AREA	CNT	CLASS
76	9	23	14442	S04 E60	170	100	1.0								

MCMATH REGION 14449 CMP DATE 28.2

				CALCIUM PLAGE DATA				SUNSPOT DATA							
YR	MO	DA	MC NO.	LAT CMD	L	AREA	INT	MW NO.	LAT CMD	L	MAG.	H STA	AREA	CNT	CLASS
76	9	27	14449	N08 E06	168	100	2.0								

MCMATH REGION 14462 CMP DATE 28.9

				CALCIUM PLAGE DATA				SUNSPOT DATA							
YR	MO	DA	MC NO.	LAT CMD	L	AREA	INT	MW NO.	LAT CMD	L	MAG.	H STA	AREA	CNT	CLASS
76	10	2	14462	N03 W48		300	1.5								
76	10	3	14462	N03 W59		200	1.0								

MCMATH REGION 14453 CMP DATE 29.6

				CALCIUM PLAGE DATA				SUNSPOT DATA							
YR	MO	DA	MC NO.	LAT CMD	L	AREA	INT	MW NO.	LAT CMD	L	MAG.	H STA	AREA	CNT	CLASS
76	9	29	14453	N25 E01	150	100	2.0								

Note: No calcium spectroheliograms were secured at the McMath-Hulbert Observatory on September 15, 16 and 26, 1976.
No sunspot observations were made at the Mt. Wilson Observatory on September 9, 10, 11, 16, 24, 25, 29 and 30, 1976.

DAILY CALCIUM PLAGE INDEX

SEPTEMBER 1976

YR	MO	DAY	INDEX	YR	MO	DAY	INDEX	YR	MO	DAY	INDEX
76	9	1	3.6	76	9	11	5.7	76	9	21	7.0
76	9	2	4.7	76	9	12	7.1	76	9	22	7.3
76	9	3	6.1	76	9	13	7.8	76	9	23	6.4
76	9	4	5.2	76	9	14	5.7	76	9	24	5.9
76	9	5	4.6	76	9	15	*	76	9	25	5.1
76	9	6	4.4	76	9	16	*	76	9	26	*
76	9	7	6.2	76	9	17	4.4	76	9	27	7.0
76	9	8	6.1	76	9	18	6.8	76	9	28	7.9
76	9	9	4.0	76	9	19	8.2	76	9	29	7.6
76	9	10	3.3	76	9	20	7.5	76	9	30	7.3

* NO OBSERVATIONS

SUDDEN IONOSPHERIC DISTURBANCES

SEPTEMBER 1976

DAY	UNIVERSAL TIME				WIDE SPREAD INDEX	NUMBER OF STATION REPORTS BY TYPE							KNOWN FLARE	McMATH REGION
	START	END	MAX	IMP		SWF	SCNA	SEA	SPA	LF-SPA	SES	SFD		
01	2250	2330	2312	1	5				2		3		2240E	14403
03	0610	0650	0620	1	3				2				0615E	14403
03	0910	0948	0916	1	3			1	1				0905	14395
03	1402	1458	1417	1	1			1					1355	14395
06	0137	0144D	1	1					1				0147E	14395
17	1806	1930	1830	1	5	1		1			5		1805	14429

PERIODS OF NO OBSERVATIONS:

DATE	TIME (UT) and STATION
01-30	0000-2400 A30, 0000-2400 A36, 0000-2400 A40, 0000-2400 A33
01-03	0000-2400 A29
01	0042-0322 UM (17 kHz)
03-09	0000-2400 A32
03	1452-1843 UM (17 kHz)
10	1632-1644 TM
11-18	0000-2400 A32
11	0220-0314 TM
13	1038-1154 TM
14	0000-2400 TN, 0914-2008 TM
15	0000-2400 TN, 0000-2400 A29, 0310-0403 TM, 0440-0610 TM, 1430-1554 TM
16	0000-2400 A29, 1430-1540 UM (13 kHz)
17	0000-2400 A37, 1939-2115 UM (10 kHz)
18	0000-2400 A37, 0445-0548 UM (10 kHz) 1942-2125 UM (10 kHz)
19	2055-2135 UM (10 kHz)
22	0255-0400 UM (13 kHz), 1530-1645 UM (10 kHz), 1940-2100 UM (10 kHz)
23	1943-2048 UM (10 kHz)
24	1936-2015 UM (10 kHz)
25	2105-2218 UM (10 kHz)
27-30	0000-2400 TN
27	0000-2400 A19, 0832-0922 TM
28	0052-0143 TM, 0800-0850 UM (13 kHz), 0800-0914 UM (10 kHz)
29-30	1600-2400 KA
30	0000-2400 A37, 1945-2030 UM (10 kHz)

STATIONS REPORTING FOR SEPTEMBER 1976

AAVSO (A1, A19, A21, A28, A29, A30, A31, A34, A35, A36, A37, A40) (SES)
(A1, A26, A31, A32) (SEA) (A31) (SWF)
HERSTMONCEUX (HC) (SEA)
HOBART (TA) (SEA)
HUANCAYO (HU) (SWF)
INUBO (IN) (SPA)
KASUAGE (KA) (SPA)
MCMATH (MC) (SWF, SCNA)
PANSKA VES (PI) (SWF, SEA, SES)
PRESTON (LO) (SEA)
SAO PAULO (UM) (SES, SPA)
SOFIA (SF) (SEA)
ST CLOUD (SES)
TABLE MOUNTAIN (TM) (SPA, LF-SPA)
TORINO (TN) (SPA)
UPICE (UI) (SEA)

NOTE: TABLE MOUNTAIN BEGAN MONITORING CAPE FEAR ON SEPTEMBER 9, 1976 AT 1320 UT.

SID's BY McMATH REGION

SEPTEMBER 1976

DAY	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30
REGION																														
03	1		1																											
95			2			1																								
29																	1													
X-RAY																														
UNKNOWN																														
NO FP																														

SOLAR RADIO EMISSION
SPECTRAL OBSERVATIONS

SEPTEMBER 1976

SEP 1976	TIMES OF OBSERVATION		STATION	EVENTS									SPECTRAL TYPE
				DECIMETRIC BAND			METRIC BAND			DEKAMETRIC BAND			
	START UT	END UT		START UT	END UT	INT	START UT	END UT	INT	START UT	END UT	INT	
01	0000	1010	MANI										
	0514	0606	DURN	0514 D	0606 E	2	0514 D	0606 E	2				IC,DC,N
	0516	1730	WEIS				0524	1635	2				I,DC
	0615	1750	DURN	0615 D	1750 E	2	0615 D	1750 E	2				IC,DC,N
			WEIS				0654.8	0659.5					IIIGG
			DURN	0709.9	0747	3	0709.9	0747	3				IV
			WEIS				0718	0742	2				CONT,P
	1012	2312	SGMR										
	1340	1458	OWIN				1340	1458	1				IS,C
			WEIS				1502.5	1502.7	1				IIIB
	1304	2245	HARV				1814	2245	1				IN
	2146	2400	MANI										
			HARV				2241		1				IIIB
			HARV				2245		1				IIIG
02	0000	1009	MANI										
	0515	1750	DURN										
	0516	1036	WEIS				0554.6	0554.7	1				IIIG
			WEIS				0713.3	0713.4	1				IIIB
			WEIS				0833.8	0834	1				IIIB
	0903	1445	OWIN				0903	1445	1				IS,C
	1013	2311	SGMR										
	1304	2245	HARV										
	1128	1728	WEIS				1446.3	1446.4	2				IIIB
			WEIS				1558.2	1558.4	1				IIIB
	2146	2400	MANI										
03	0000	1009	MANI							0137.2	0146.5	2	IIIG
			MANI							0223.9	0224.5	1	III
			MANI							0245.7	0247.0	2	IIIG
			MANI							0331.7	0333.4	1	IIIG
			MANI							0416.7	0417.4	1	III
	0517	1726	WEIS				0520.4	0520.5	1				IIIB
			WEIS				0603	1300	1				IIIS
	0808	1417	OWIN				0808	1417	1				IS
			OWIN				0821.5	0835.0	3				IIIGG
			WEIS				0824.2	0830	3				IIIGG
	0518	1750	DURN	0824.5	0833.4	3	0824.5	0833.4	3				IIIGG
			MANI							0827.9	0828.8	1	III
			WEIS				0831.5	0833.6	3				IIIGG
			OWIN				0840.7	0846.0	1				IIIGG
			WEIS				0905.3	0915.3	3				IIIGG
			OWIN				0905.5	0915.5	3				IIIGG
			DURN	0906.0	0914.6	3	0906.0	0914.8	3				IIIGG
			DURN	0938	1155	2	0938	1155	2				IC,N
			WEIS				0945	1446					IN,DC
			WEIS				0946.9	0948.2	2				IIIGG
			OWIN				0947.0	0947.7	2				IIIG
			OWIN				1012.3	1012.5	2				IIIG
			WEIS				1012.3	1013	3				IIIG
			WEIS				1054.5	1058.3	2				IIIGG
			OWIN				1258.4	1258.5	1				IIIG
	1304	2245	HARV				1305	1548	1				IN
			OWIN				1354.5	1358.7	2				IIIGG
	1014	2310	SGMR							1354.5	1355.5	2	V
			HARV				1354	1357	1				IIIG
			OWIN				1401.5	1401.8	2				IIIG
			WEIS				1401.5	1402.0	2				IIIG
			DURN	1401.5	1401.7	3	1401.6	1401.7	1				IIIG
			SGMR							1401.6	1402.3	3	IIIG
			HARV				1401	1402	2				IIIG
			WEIS				1438.8	1434.7	2				IIIG
			WEIS				1438	1439.7	1				IIIG
			SGMR							1439.3	1439.8	2	V
			HARV				1439	1440	2				IIIGG
			SGMR							1446.4	1446.6	1	III
			SGMR							1529.8	1530.4	1	V
			SGMR							1538.3	1549.1	1	I

SOLAR RADIO EMISSION
SPECTRAL OBSERVATIONS

SEPTEMBER 1976

SEP 1976	TIMES OF OBSERVATION		STATION	EVENTS									SPECTRAL TYPE
				DECIMETRIC BAND			METRIC BAND			DEKAMETRIC BAND			
	START UT	END UT		START UT	END UT	INT	START UT	END UT	INT	START UT	END UT	INT	
03			WEIS				1543.7	1544.5	1				IIIG
			WEIS				1545.7	1545.1	1				IIIG
			WEIS				1547.5	1550	1				IIIG
			SGMR							1835.8	1835.9	1	III
			SGMR							1922.3	1923.1	1	V
			HARV				1922	1923	1				IIIG
			SGMR							2011.5	2011.7	1	V
			HARV				2051	2213	1				IN
	2146	2400	MANI										
04	0000	0540	MANI							0035.6	0036.7	1	III
			MANI							0130.4	0131.1	1	III
			MANI							0157.7	0158.0	1	III
			MANI							0214.2	0249.4	1	IIIG
			MANI							0411.8	0412.0	1	III
	0519	0657	WEIS				0542	0657	1				IIIS
	0638	1008	MANI										
	0519	1745	DURN	0716.1	0718.1	3	0716.1	0718.1	3				IIIGG,RS
			DURN	0727.3	0730	3	0727.3	0730	3				IIIG,RS
			DURN	0730	1057	2	0730	1057	2				IC,N
			DURN	0809.6	0809.7	2	0809.6	0809.7	2				IIIG
			DURN	0815.7	0816.5	3	0815.7	0816.5	3				IIIG
	0927	1724	WEIS										
			WEIS				0930	1708	2				IIIS
	1015	2308	SGMR							1015.1	1532.0	1	CONT
			DURN	1035.0	1035.2	2	1035.0	1035.2	3				IIIG
			DURN	1041.3	1041.4	2	1041.3	1041.4	2				IIIG
			DURN	1046.8	1052.7	3	1047.7	1052.7	3				IIIGG,RS
			WEIS				1105	1145	2				CONT,P
			WEIS				1119.5	1125	2				IIIGG
			WEIS				1120.5	1127	2				IIIGG
	1304	2245	HARV				1304	1440	1				IN
			SGMR							1329.6	1329.7	2	III
			SGMR							1619.8	1625.1	2	IIIG
			HARV				1619	1623	2				IIIGG
			HARV				1643	1709	1				IIIN
			SGMR							1752.0	1752.1	1	III
			SGMR							1929.5	1929.6	1	III
			HARV				2244	2245	1				IIIG
	2146	2400	MANI							2350.5	2351.2	1	III
05	0000	1008	MANI										
	0519	0638	DURN										
			WEIS				0542.9	0543.2	2				IIIG
	0520	1709	WEIS				0547	1608	1				IIIS
			WEIS				0753.8	0755.8	2				IIIGG
	0833	1744	DURN	1329.4	1329.6	3	1329.4	1329.6	3				IIIG
			WEIS				1329.5	1331.1	3				IIIGG
	1017	2306	SGMR							1329.6	1331.7	2	V
	1304	2245	HARV				1329	1330	1	1329	1330	2	IIIG
			WEIS				1405.6	1405.7	2				IIIB
			SGMR							1405.7	1405.8	1	III
			HARV				1554	2117	1	1554	2117	1	IIIN
			SGMR							1607.5	1607.6	1	III
			HARV				1608		2	1608		2	IIIB
			SGMR							1852.7	1854.7	2	V
			HARV				1852	1855	3	1852	1855	3	IIIGG,V
			SGMR							2030.8	2031.1	1	III
			HARV				2030	2032	2	2030	2032	3	IIIG
	2146	2400	MANI										
06	0000	1008	MANI										
	0519	1742	DURN	0520 D	1742 E	1	0520 D	1742 E	1				IC,DC,N
	0653	1720	WEIS				0712	0732.8	1				IN
			WEIS				0836.1	0837.2	1				IIIG
			WEIS				0932.3	0932.4	1				IIIB
			WEIS				1000.2	1001.4	2				IIIB
			WEIS				1053.3	1410	2				IN,DC
			WEIS				1059.1	1059.2	1				IIIB
	1304	2245	HARV				1502	1800	1	1502	1800	1	IIIN

SOLAR RADIO EMISSION
SPECTRAL OBSERVATIONS

SEPTEMBER 1976

SEP 1976	TIMES OF OBSERVATION		STATION	EVENTS										SPECTRAL TYPE
				DECIMETRIC BAND			METRIC BAND			DEKAMETRIC BAND				
	START UT	END UT		START UT	END UT	INT	START UT	END UT	INT	START UT	END UT	INT		
06			WEIS				1650.7	1651.5	2					IIIG
	1018	2304	SGMR							1650.7	1651.7	1		V
			HARV				1650	1653	3	1650	1653	3		IIIG
			HARV				1715		2	1715		2		IIIB
			SGMR							1800.3	1800.5	1		III
			HARV				1800		3	1800		3		IIIB
			SGMR							1918.1	1918.8	1		V
			HARV				1918		3	1918		3		IIIG,V
	2146	2400	MANI											
07	0000	1005	MANI											
	0520	1742	DURN	0520 D	1742 E	2	0520 D	1742 E	2					IC,DC,N
	0522	1535	WEIS				0555	1624	2					IN,DC
			WEIS				0854.7	0855.4	2					IIIG
	0900	1244	DWIN				0900	1244	1					IN
			WEIS				1128.6	1129.3	2					IIIG
			WEIS				1414.3	1414.4	1					IIIB
	1019	2303	SGMR							1414.4	1414.6	1		III
	1540	1718	WEIS											
	1304	2245	HARV				1914	1915	2	1914	1915	2		IIIG
	2146	2400	MANI											
08	0000	1005	MANI											
	0520	1740	DURN											
	0524	1715	WEIS											
	0810	1220	DWIN				0810	1220	1					IN
	1020	2301	SGMR											
	1304	2245	HARV											
	2146	2400	MANI											
09	0000	1005	MANI											
	1021	2259	SGMR											
	0525	1215	WEIS				1210.4	1210.5	2					UNCLF
	1304	2245	HARV											
	0521	1521	DURN				1430.9	1431.2	3					DCIM
	1220	1714	WEIS				1556.7	1559.8	1					IIIG
	2146	2400	MANI											
10	0000	1005	MANI											
	0539	1732	DURN	0539 D	1732 E		0539 D	1732 E						IW,N
	0819	1343	DWIN				0819	1343	1					IS,C
	1022	2258	SGMR											
	0526	1712	WEIS				1508.4	1508.5	1					IIIB
	1304	2245	HARV				1508		1	1508		1		IIIB
			HARV				1748		2	1748		2		IIIB
	2146	2400	MANI											
11	0000	1005	MANI											
	0523	1729	DURN	0523 D	1729 E	1	0523 D	1729 E	1					IC,DC,N
	0528	0846	WEIS				0807.8	0808.8	1					IIIG
	1023	2256	SGMR											
	1304	2245	HARV				1304	1512	1					I
			HARV				1512	1610	1					IN
	2146	2400	MANI											
12	0000	1005	MANI											
	0523	1724	DURN											
	0544	0604	WEIS											
			WEIS				0813.9	0814	1					IIIG
	0630	1708	WEIS				0857.4	0857.6	1					IIIB
	1024	2254	SGMR											
			WEIS				1204.6	1204.8	1					IIIB
			WEIS				1304.3	1304.4	1					IIIB
	1304	2245	HARV				1925		2	1925		2		IIIB
	2146	2400	MANI											
13	0000	1003	MANI											
	0524	1724	DURN											
	0530	1350	WEIS											
	0752	1019	DWIN				0752	1019	1					IN,W

SOLAR RADIO EMISSION
SPECTRAL OBSERVATIONS

SEPTEMBER 1976

SEP 1976	TIMES OF OBSERVATION		STATION	EVENTS									SPECTRAL TYPE
				DECIMETRIC BAND			METRIC BAND			DEKAMETRIC BAND			
	START UT	END UT		START UT	END UT	INT	START UT	END UT	INT	START UT	END UT	INT	
13	1025	2252	SGMR										
	1304	2245	HARV										
	1352	1705	WEIS										
	2146	2400	MANI										
14	0000	1001	MANI										
	0524	0618	DURN										
	0531	1704	WEIS										
	0626	1720	DURN										
	0850	1331	OWIN				0850	1331	1				IN,W
	1026	2250	SGMR										
	1304	2245	HARV										
	2148	2400	MANI										
15	0000	1000	MANI										
	0529	1720	DURN										
	0533	1702	WEIS										
	1027	2249	SGMR										
	1315	2245	HARV				1944	1946	1	1945		1	IIIG
	2148	2400	MANI										
16	0000	0959	MANI										
	0535	0658	WEIS				0601.5	0608	2				IIIGG
	0529	1719	DURN	0602	0605	3	0602	0605	3				IIIGG
	1028	2247	SGMR										
	1305	1700	WEIS										
	1315	2245	HARV										
	2148	2400	MANI										
17	0000	0959	MANI										
	0529	1718	DURN										
	0536	0655	WEIS										
	0567	1658	WEIS										
	0802	1244	OWIN				1003.5	1004.3	2				IIIG
	1316	2245	HARV				1801	1807	3	1802	1808	3	IIIGG
	1029	2245	SGMR							1804.1	1807.8	1	IIIG
			HARV				1804	1807	3	1804	1808	3	IV
	2148	2400	MANI										
18	0000	0959	MANI										
	0529	0751	DURN										
	0537	1456	WEIS										
	0808	1718	DURN										
	1030	2243	SGMR										
	1315	2245	HARV										
	1505	1656	WEIS										
	2148	2400	MANI										
19	0000	0957	MANI										
	0531	1715	DURN										
	0539	1654	WEIS										
	1031	2242	SGMR										
	1316	2245	HARV										
	2148	2400	MANI										
20	0000	0955	MANI										
	0531	1715	DURN										
	0540	1257	WEIS										
	1033	2240	SGMR										
	1301	1332	WEIS										
	1316	2245	HARV										
	1348	1438	WEIS										
	1448	1553	WEIS										
	1610	1652	WEIS										
	2148	2400	MANI										
21	0000	0954	MANI										
	0533	1715	DURN										
	0541	1015	WEIS										
	1034	2238	SGMR										

SOLAR RADIO EMISSION
SPECTRAL OBSERVATIONS

SEPTEMBER 1976

SEP 1976	TIMES OF OBSERVATION		STATION	EVENTS									SPECTRAL TYPE
				DECIMETRIC BAND			METRIC BAND			DEKAMETRIC BAND			
	START UT	END UT		START UT	END UT	INT	START UT	END UT	INT	START UT	END UT	INT	
21	1045	1249	WEIS										
	1315	2245	HARV										
	1435	1516	WEIS										
	1600	1649	WEIS										
	2148	2400	MANI										
22	0000	0953	MANI										
	0535	1712	DURN										
	0542	1145	WEIS										
	1035	2236	SGMR										
	1212	1647	WEIS										
	1316	2245	HARV										
	2148	2400	MANI										
23	0000	0952	MANI										
	0536	0608	DURN										
	0545	1645	WEIS										
	0630	1710	DURN										
	1036	2234	SGMR										
	1315	2245	HARV										
	2148	2400	MANI										
24	0000	0952	MANI										
	0545	1000	WEIS				0756.7	0758.8					IIIG
	0536	1710	DURN	0757.2	0757.3	3	0757.2	0757.3	3				III
			DURN	0758.7	0758.8	1	0758.7	0758.7	3				III,RS
	1037	2233	SGMR										
	1107	1643	WEIS										
	1316	2245	HARV										
	2148	2400	MANI										
25	0000	0952	MANI										
	0536	1705	DURN	0538.8	0539.4	2	0538.8	0539.3	1				IC,N
			DURN	0609.7	0610.4	2	0610.2	0610.4	1				IIIG,RS
	0541	1641	WEIS				0610.3	0610.7	2				IIIU
	1038	2231	SGMR										
	1316	2245	HARV										
	2148	2400	MANI										
26	0000	0950	MANI										
	0536	1705	DURN										
	0548	0754	WEIS										
	1039	2229	SGMR										
	1315	2325	HARV										
	2148	2400	MANI										
27	0000	0948	MANI										
	0538	1622	DURN										
	0708	1254	WEIS										
	1040	2227	SGMR										
	1316	2245	HARV										
	2146	2400	MANI										
28	0000	0946	MANI										
	0540	1700	DURN										
	1041	2226	SGMR										
	2146	2400	MANI										
	1315	2245	HARV				2241	2242	1	2241	2242	1	IIIG
29	0000	0800	MANI										
	0540	1700	DURN										
	0552	1633	WEIS										
	0820	0946	MANI										
	1042	2224	SGMR										
	1316	2245	HARV				2019	2020	3	2019	2020	3	IIIG
	2146	2400	MANI										
30	0000	0944	MANI										
	0545	1655	DURN										
	0554	0801	WEIS										

SOLAR RADIO EMISSION
SPECTRAL OBSERVATIONS

SEPTEMBER 1976

SEP 1976	TIMES OF OBSERVATION		STATION	EVENTS									SPECTRAL TYPE
				DECIMETRIC BAND			METRIC BAND			DEKAMETRIC BAND			
	START UT	END UT		START UT	END UT	INT	START UT	END UT	INT	START UT	END UT	INT	
30	1043	2222	SGMR							1443.2	1445.4	1	V
	1316	2245	HARV				1443	1445	1	1443	1445	1	IIIGG
			SGMR							1604.4	1604.8	1	IIIG
			HARV				1604	1605	2	1604	1605	2	IIIG
			HARV				1635		1	1635		1	IIIB
	2147	2400	HANI										

The symbols used in connection with the spectral type in describing the important bursts are as follows:

B = Single burst
G = Small group (< 10) of bursts
GG = Large group (> 10) of bursts
C = Underlying continuum (particularly with type I)
S = Storm in the sense of intermittent but apparently connected activity
N = Intermittent activity in this period
U = U-shaped burst of Type III

RS = Reverse slope burst
DP = Drifting pairs
DC = Drifting Chains
H = Herringbone
W = Weak
P = Pulsations
CONT = Continuum
UNCLF = Unclassified activity

EAST-WEST SOLAR SCANS

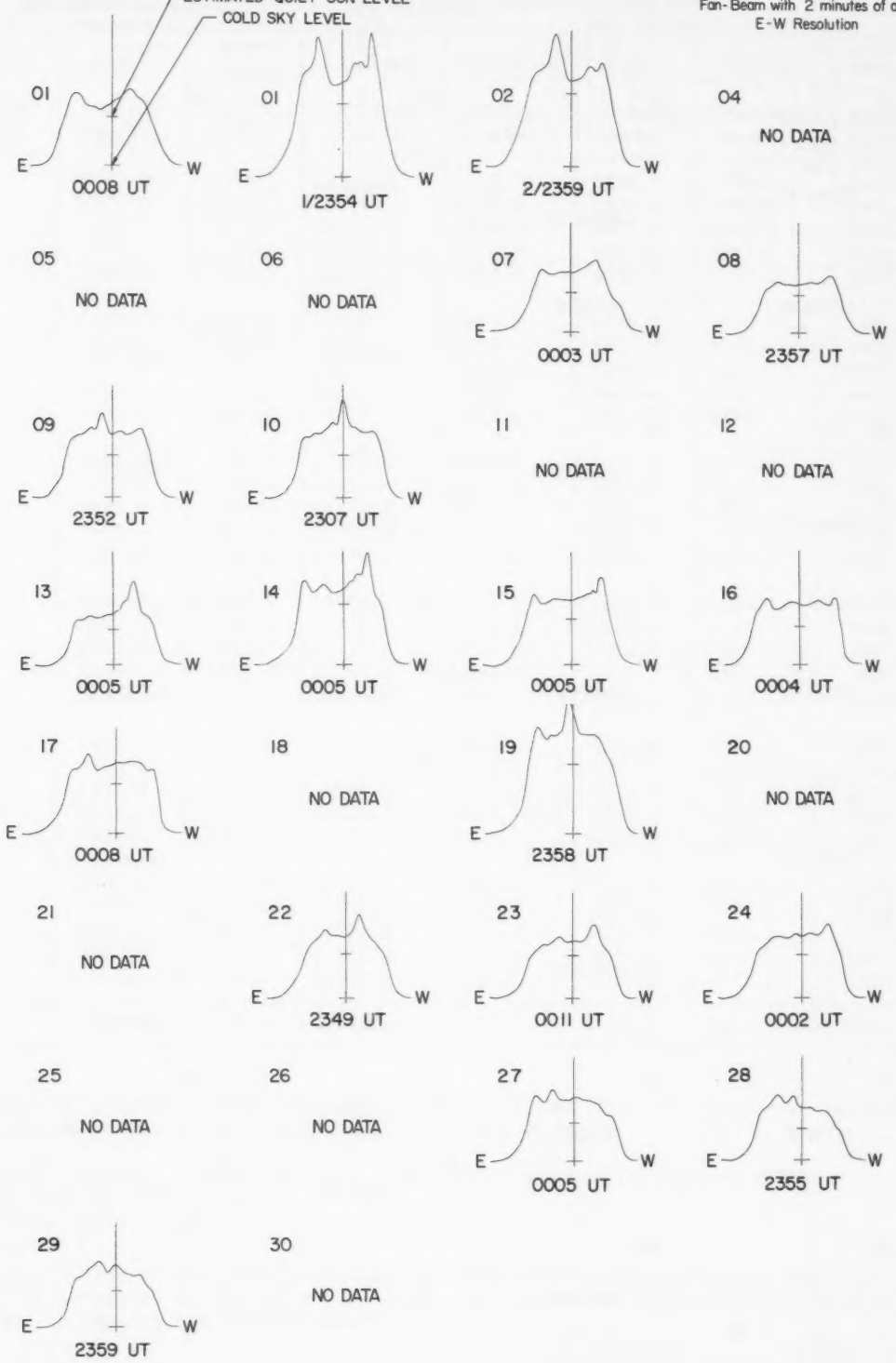
SEPTEMBER 1976

Fleurs, Australia

ESTIMATED QUIET SUN LEVEL

COLD SKY LEVEL

21 cm
Fan-Beam with 2 minutes of arc
E-W Resolution

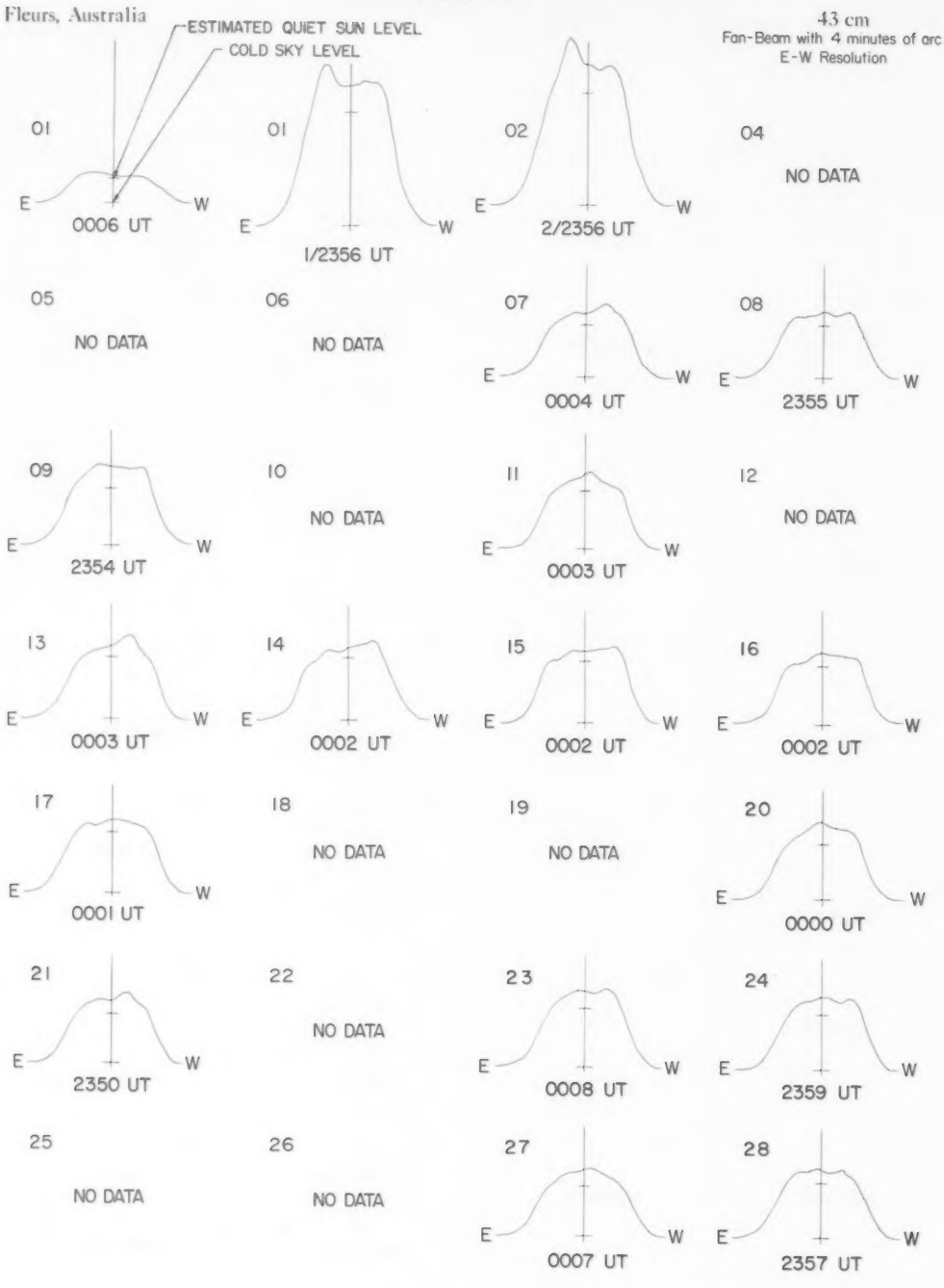


EAST-WEST SOLAR SCANS

SEPTEMBER 1976

Fleurs, Australia

43 cm
Fan-Beam with 4 minutes of arc
E-W Resolution



COSMIC RAY INDICES

(Neutron Monitors)

SEPTEMBER 1976

Sept 1976	THULE* Average cts/hr	ALERT Average cts/hr	DEEP RIVER Average cts/hr	CALGARY Average cts/hr	SULPHUR MT Average cts/hr	KIEL Average cts/hr	CLIMAX Average cts/hr	TOKYO Average cts/hr
1		7543.5	7096.5	11799.8	9138.7	6416.9	4285.2	3665.5
2		7531.0	7113.5	11740.1	9129.6	6426.4	4298.9	3671.5
3		7561.5	7116.8	11754.9	9164.7	6411.1	4295.7	3671.3
4		7561.4	7130.8	11808.5	9172.3	6417.6	4297.9	3679.0
5		7562.6	7151.4	11824.3	9203.4	6406.5	4317.0	3683.0
6		7558.0	7147.2	11790.7	9192.2	6390.4	4318.8	3681.7
7		7608.4	7150.4	11775.8	9128.0	6420.6	4332.4	3673.3
8		7625.6	7163.8	11833.3	9113.7	6450.4	4341.7	3675.4
9		7613.8	7142.8	11823.8	9109.1	6455.0	4321.7	3670.0
10		7617.3	7149.6	11827.3	9183.0	6442.2	4296.5	3661.1
11		7632.0	7184.8	11884.4	9231.9	6434.5	4320.2	3664.5
12		7593.3	7138.4	11812.1	9174.1	6404.4	4317.0	3663.6
13		7595.4	7101.0	11759.4	9170.2	6394.1	4287.1	3657.3
14		7606.4	7112.0	11801.8	9151.1	6415.0	4294.0	3664.6
15		7544.2	7069.3	11769.2	9107.2	6392.5	4277.2	3659.4
16		7555.5	7080.6	11788.1	9133.1	6378.6	4263.2	3658.1
17		7568.0	7090.2	11774.7	9133.0	6384.4	4272.4	3668.8
18		7547.0	7067.3	11737.4	9084.9	6356.4	4284.4(32)	3685.7
19		7495.1	7067.5	11750.6	9084.4	6330.5	4278.1(40)	3669.6
20		7435.3	7013.6	11622.8	8998.1	6304.1	4250.5	3640.7
21		7421.9	7040.6	11622.4	9001.1	6293.5	4235.9	3640.7
22		7413.7	7037.8	11627.4(23)	9012.9	6296.3	4235.8	3645.2
23		7411.0	7010.5	11614.0	8999.8	6313.1	4226.1	3656.3
24		7448.3	7032.5	11647.7	9032.4(21)	6318.2	4231.6	3660.0
25		7471.2	7053.0	11705.5	9068.7	6335.8	4250.8(18)	3666.3
26		7488.5	7059.9	11719.0	9080.2	6341.5	4263.5	3663.8
27		7508.5	7075.0	11748.3	9105.1	6353.0	4270.2	3663.9
28		7529.1	7095.5	11778.5	9135.3	6362.1	4281.1	3664.6
29		7547.6	7112.8	11811.7	9148.4	6365.1	4281.6	3664.8
30		7545.6	7108.5	11802.3	9130.8	6366.0	4273.2	3661.5
MEAN		7538.0	7097.1	11758.5	9117.2	6379.2	4283.8	3665.0

no observations

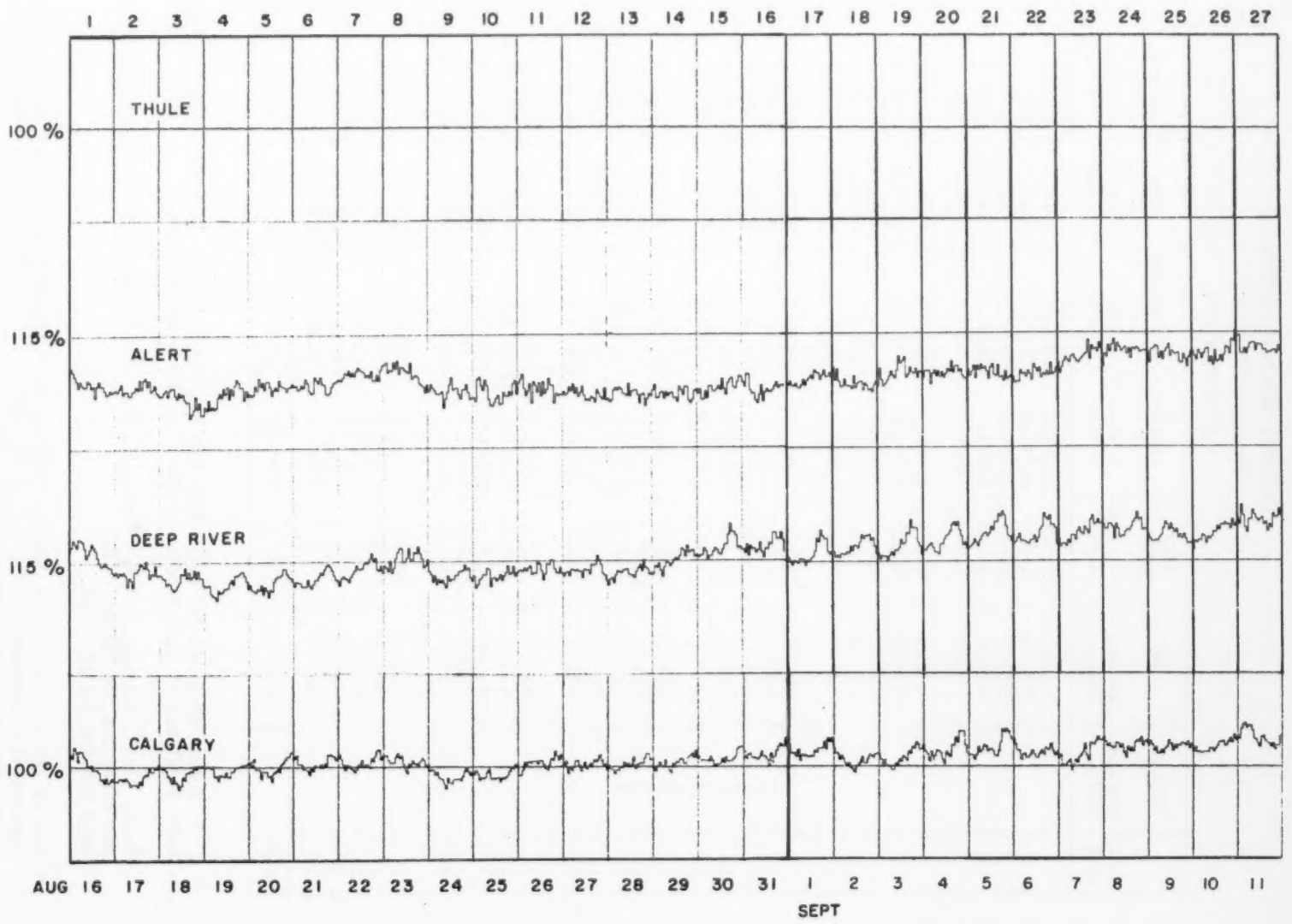
( ) Number of hours for which data are available if less than 24. Number of Section Hours at Climax if sum of both sections is less than 40 hours.

Thule, Alert, Calgary, Sulphur Mountain, Kiel and Climax Scaling Factors = 100.
Deep River Scaling Factor = 300.
Tokyo Scaling Factor = 128.

* Due to the closing of the Geopole Station the Thule neutron monitor operations were temporarily suspended at the end of May 1976. It is expected that observations will be resumed in the not too distant future.

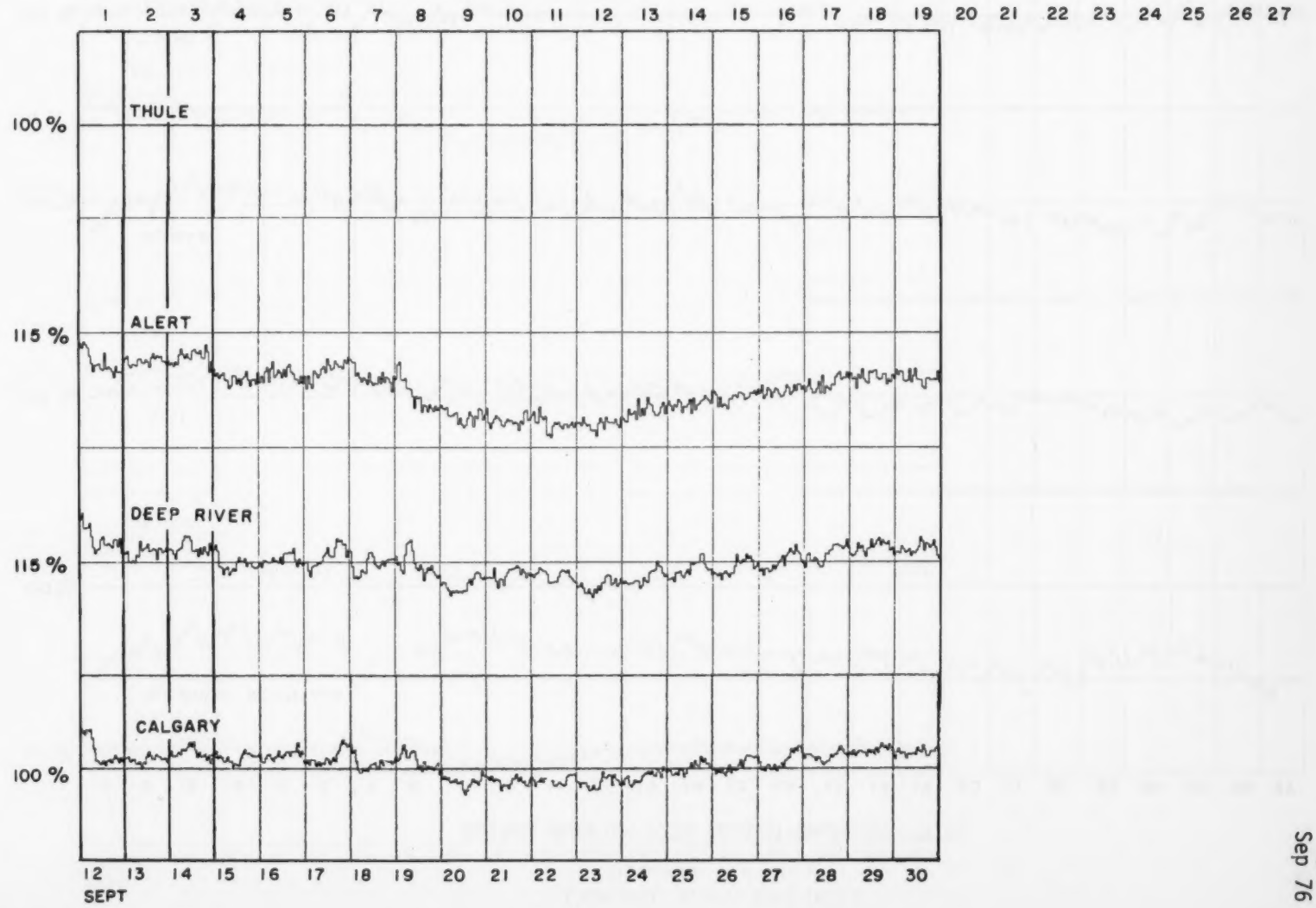
COSMIC RAY INDICES
(Neutron Monitors)

Bartels Rotation 1956 (August-September 1976)



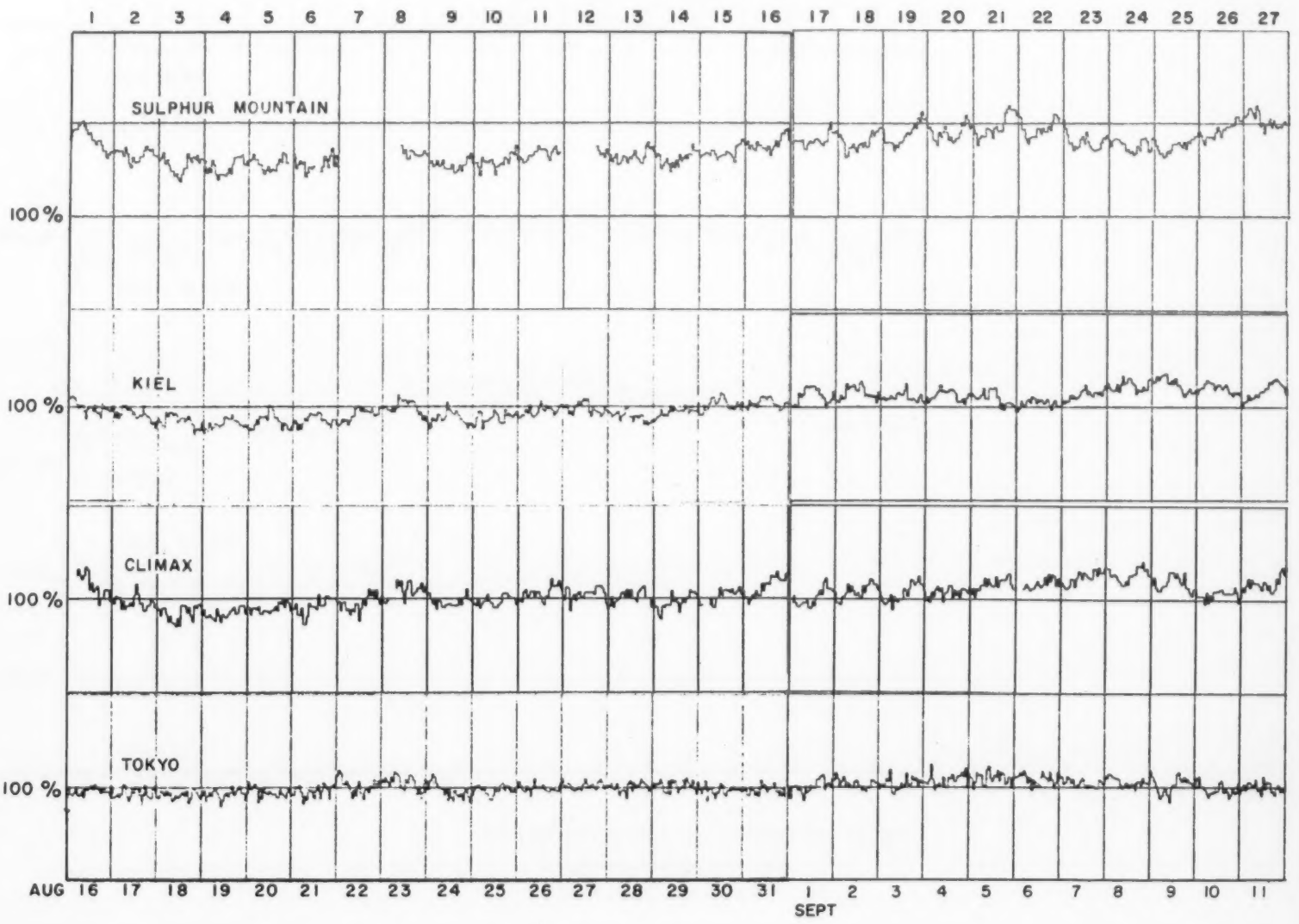
COSMIC RAY INDICES
(Neutron Monitors)

Bartels Rotation 1957 (September 1976)



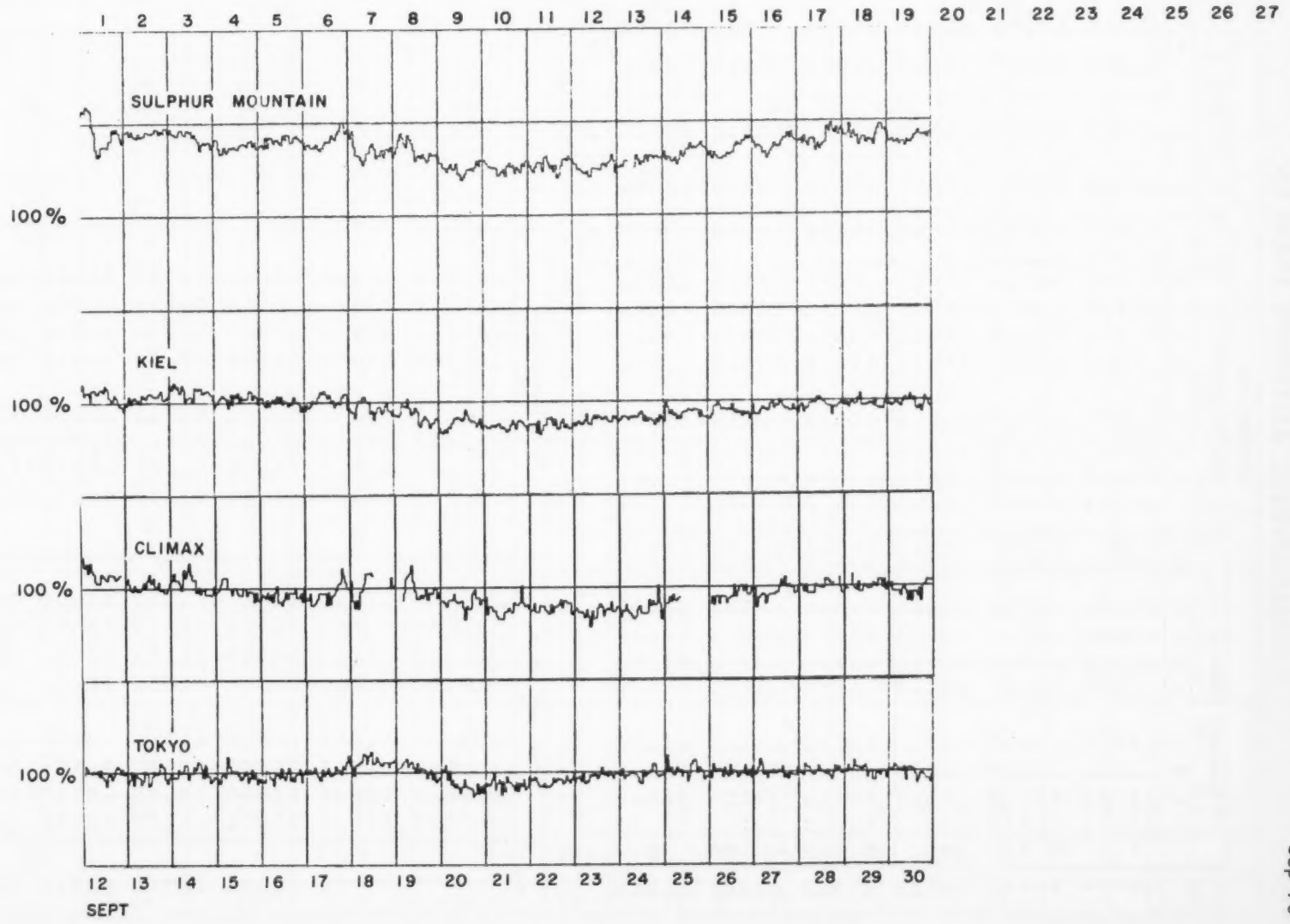
COSMIC RAY INDICES
(Neutron Monitors)

Bartels Rotation 1956 (August-September 1976)



COSMIC RAY INDICES
(Neutron Monitors)

Bartels Rotation 1957 (September 1976)



GEOMAGNETIC ACTIVITY INDICES

SEPTEMBER 1976

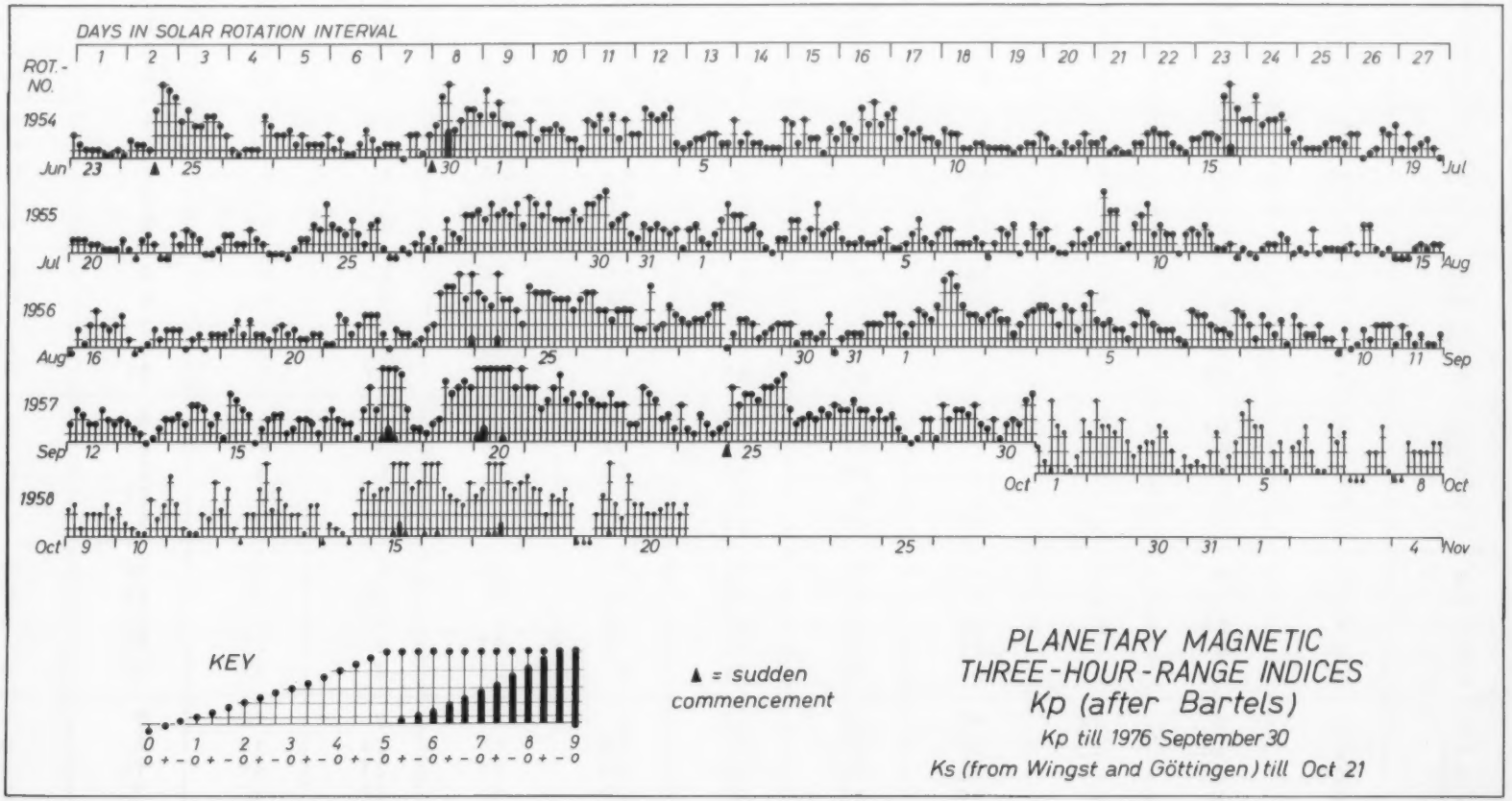
Day		Three-Hourly Indices Kp									Three-Hourly Indices Km								Ap	aa					Cp
		1	2	3	4	5	6	7	8	Sum	1	2	3	4	5	6	7	8		N	S	M			
1		3-	3-	2	1+	2	3	3-	2+	19-	2	2+	2	1+	2	3-	3-	2+	10	21	16	16	22		0.6
2	D	3+	5-	5	4+	3+	3-	3-	2+	28+	3-	4+	5-	4-	4-	2+	3-	2	24	32	38	43	27		1.1
3		3-	3	2+	2+	1+	2	3-	3	19+	3-	3	3-	3-	2-	2-	3-	3-	10	23	23	24	22		0.6
4		3+	3+	3	2	3+	3	2-	3+	23	2+	3	3	2+	3+	3	1+	3	14	24	24	21	27		0.8
5		4	2+	2	2+	2-	2-	1	2	17	4-	2+	2-	3-	2+	2	1+	2-	9	22	21	27	17		0.5
6	Q	3	3-	2	2-	2-	2-	1	1-	14+	2+	2+	2-	2-	2-	2+	1+	1	7	18	11	17	12		0.4
7		3	3-	3-	2	2-	2-	1+	3	18	3-	2+	3-	2	2-	2-	1+	3-	10	18	18	19	18		0.5
8	Q	3-	2	1	3-	2	1+	2+	1-	15-	2+	2-	1-	2	2	2-	2+	0+	7	17	13	16	15		0.4
9	QQ	3-	2	1+	1+	2	1	1	0	11+	2	1+	1+	2	2-	1	1-	0	6	11	11	14	9	CK	0.2
10	QQ	2-	0+	1-	2-	1	2	2	2	11+	1+	1-	0+	1+	1	2-	2	2	5	12	11	9	15	CC	0.2
11	QQ	1-	2	1+	1-	1+	1-	1-	1+	9-	1-	2-	1+	1-	1+	1-	1-	1	4	11	10	11	10	CK	0.1
12	Q	2-	3-	2+	2-	2-	3-	2	2-	16+	2-	2+	2+	2	2-	3-	2+	2-	8	19	17	18	20		0.4
13	QQ	2	2-	1+	1	0+	1-	1+	2	10+	2	2-	1+	1+	0+	1	1+	2-	5	13	7	10	11	C	0.2
14		2	2+	2-	3	3	3-	2-	2+	19-	2-	2-	2	3	3	2+	2-	2	10	21	17	18	21		0.6
15		1-	4-	3+	3-	2+	0+	1+	2	16+	0+	3+	3	3-	2+	1-	1+	2	10	17	19	24	13		0.5
16	Q	2+	2+	1	1+	2	2	2-	1	14-	2+	2	1+	2-	2-	2-	2-	1	6	16	9	12	13	CC	0.3
17		2	3-	2	2-	2-	1-	3-	4	17+	2+	2+	2	1+	2-	1	3-	4-	10	20	14	14	20		0.6
18	D	3-	5+	6	5+	5-	3-	1+	1+	29+	3-	5	5-	5+	4+	2+	1+	1+	33	36	52	59	30		1.3
19		1	2-	2	4+	4-	4	4+	4	25	1	2	2	4-	4-	4-	4	4-	20	33	34	22	45		1.0
20	D	5+	6	5	5	5+	5	4	5	41-	4+	5	4+	4+	5-	4	4	4	51	62	61	61	62		1.6
21	D	4	4	3-	3+	4	5-	3+	4-	30-	3+	3	2+	3	4-	4	3+	3+	24	38	35	29	44		1.1
22		3	4-	3+	3	3	4-	3	3	26-	3-	3	3	3	3	3+	3-	3-	17	32	35	32	35		0.9
23		2-	2-	4	4-	3+	2	2+	1+	20	1	1+	4-	3+	3+	2+	2+	1+	12	22	24	25	21		0.7
24	Q	3	1+	1	2+	2-	1	1+	2-	13+	2+	1-	1	2+	1	1	1	2	7	14	11	16	10	K	0.3
25	D	4	3	4-	4-	3+	4	4	4+	30	4-	2+	3	3+	3+	4-	4-	4	24	43	37	34	46		1.1
26		5-	3-	2-	2	2+	2	3-	2+	20+	4+	2+	1+	2-	2	2+	3-	2+	13	29	20	25	24		0.7
27		3	3-	3-	3+	3-	3-	2	3-	22-	3	2+	2+	3+	3	2+	2-	2+	12	23	25	25	22		0.7
28	QQ	2	2+	1+	1-	0+	1-	2	2	11+	2-	2	1	1-	0+	1-	2	2+	5	15	8	12	12	C	0.2
29		1-	3	2	3-	3-	2+	3	2-	18	1	2+	2+	3-	3-	2	3-	2-	10	18	17	15	21		0.6
30		1+	2	1-	2-	2	2-	3+	4-	16+	1+	2	1-	2-	2	2	3+	3	9	21	13	10	25		0.5
																			13	23.4	21.8	22.7			0.62

Day	Three-Hourly Indices Kn								Three-Hourly Indices Ks							
	1	2	3	4	5	6	7	8	1	2	3	4	5	6	7	8
1	2	2+	2	1+	2-	3-	3-	2	2	3-	2-	1+	2	3-	3	2+
2	3-	5-	5	4-	3+	2+	2+	2	3	4+	5-	4-	4-	3-	3-	2
3	2+	3-	3-	3	2	2	3-	3	3-	3	3-	3-	2-	2-	3-	3-
4	3-	3	3	2	3+	3	1+	3	2+	3-	3-	3-	3+	3-	1+	3
5	4-	2+	2-	3	2+	2-	1+	2	4-	2+	1+	3-	2+	2	1+	1+
6	3-	2+	2	2-	1+	2+	2-	1	2+	2+	1+	1+	2-	2+	1+	1
7	3-	2+	3-	2	2-	1+	1	3-	3	2+	3-	2	2-	2-	1+	2+
8	2+	2-	1-	2+	2	2-	2+	0+	2+	1+	0+	2	2-	1+	2+	0+
9	2	2	2-	2+	2-	1-	1-	0	2+	1	1+	2-	2-	1+	1-	0
10	1+	0+	0+	2-	1+	2-	2	2	2-	1-	1-	1	1-	2-	2	2-
11	1-	1+	1+	1-	2-	1-	0+	1+	1	2-	1+	0+	1+	1-	1-	1
12	1+	2+	2+	2	2	3-	2	2-	2-	2+	2+	2	1+	3-	3-	2-
13	2	2-	2-	2-	0	1+	1+	2	2	2-	1	1	0+	1-	1+	1+
14	1+	2-	2+	3-	3	2+	2	2+	2-	2	2-	3	3-	2	1+	2
15	0+	3+	3-	3-	2+	1-	1+	2	0+	3+	3	3	2+	1-	2-	2
16	2	2+	2-	2-	2	2-	2-	1	2+	2-	1+	2-	2-	1+	1+	1+
17	2+	2+	2-	1+	2	1-	2+	3	2+	2	2	1	2-	1	3	4
18	2+	5	5	5+	4+	2+	1+	1+	3-	5-	4+	5+	4	3-	1+	1+
19	1-	2-	2-	4-	4-	4-	4-	3+	1+	2+	2	4-	4-	4	4+	4-
20	5-	5+	5-	4	5	4	4-	4	4+	5-	4	4+	5-	4	4+	4-
21	3	3	2+	3	4-	4-	3+	3+	4-	3	2+	3	4-	4+	3	3+
22	2+	3+	3	3	3+	3+	3-	3-	3	3-	3	3-	3	3	3	3-
23	1	1+	4-	4-	3	2	2+	1+	1+	1+	3+	3+	3+	2+	2+	1+
24	2+	1-	1+	3-	1+	1+	1+	2	3-	1-	1	2+	1-	1	1-	2-
25	3+	2+	3	4-	3	4	4-	4-	4	2+	3-	3+	4-	4-	4	4+
26	4+	2+	1+	2	2	2	2+	2+	4+	2-	1+	2-	2+	2+	3	2
27	3	2+	2	4-	3	2+	2-	2+	3	2+	3-	3	3	2+	2-	3-
28	2-	2	1+	1-	1-	1	2-	2+	2	2+	1-	1-	0+	1-	2	2+
29	1	2+	2	3	3-	2	3-	2-	1	2+	2+	2+	3-	2+	3-	2-
30	1	2-	1	2-	2+	2	3+	3-	1+	2+	0	2-	2	2-	4-	3

DAILY AVERAGE INDICES Ap

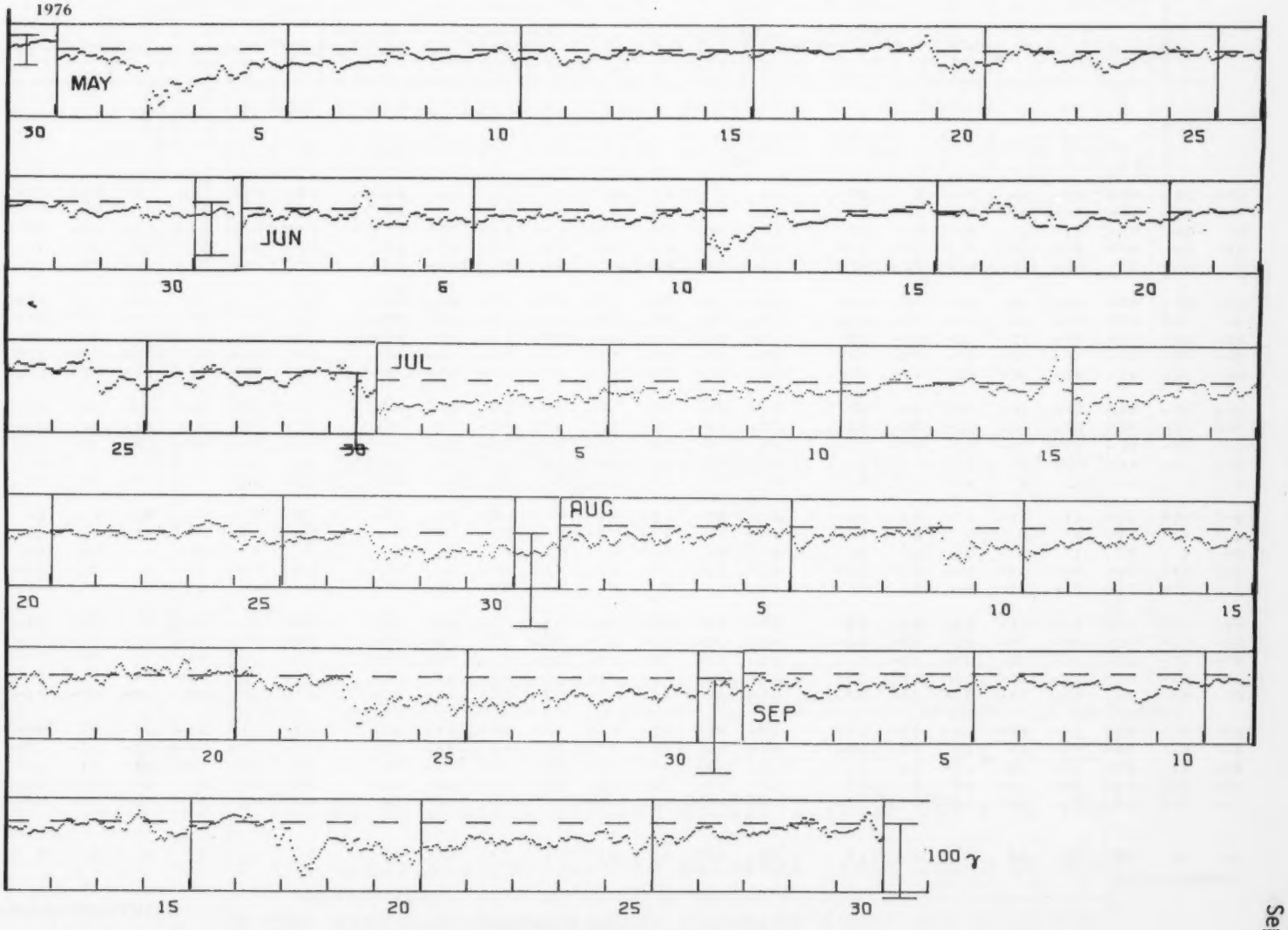
	1975			1976								
DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	6	7	32	4	23	17	107	10	6	18	8	10
2	2	36	27	4	20	32	16	58	6	9	8	24
3	11	65	12	15	16	27	44	94	12	12	10	10
4	9	41	13	10	12	12	30	20	20	14	5	14
5	6	22	8	9	8	15	27	14	20	6	6	9
6	25	11	7	13	8	33	30	8	7	6	5	7
7	38	10	4	11	21	26	27	10	13	9	5	10
8	45	7	18	5	29	42	14	10	8	13	4	7
9	37	37	16	4	24	36	16	4	4	10	12	6
10	24	20	8	47	24	32	12	6	6	6	9	5
11	8	13	5	40	12	27	12	11	26	4	5	4
12	12	9	3	13	17	26	9	7	7	5	3	8
13	7	4	3	9	22	11	13	6	4	4	3	5
14	9	3	6	11	17	14	15	4	3	6	4	10
15	5	4	9	7	8	15	4	5	4	19	2	10
16	10	6	14	10	6	18	8	5	5	16	6	6
17	8	17	9	14	14	20	5	4	14	5	5	10
18	4	7	6	9	22	13	2	3	21	6	4	33
19	3	8	6	8	25	11	5	12	4	6	6	20
20	5	9	3	11	19	8	2	19	5	4	5	51
21	6	18	9	20	14	5	5	11	3	3	8	24
22	6	50	10	23	14	3	19	11	3	4	5	17
23	7	8	7	20	4	5	8	14	4	5	30	12
24	4	13	2	21	3	4	16	6	16	4	25	7
25	4	15	18	10	4	4	9	9	18	9	24	24
26	5	14	34	5	9	138	6	6	7	4	18	13
27	5	5	31	6	26	35	11	5	6	8	13	12
28	9	9	15	5	20	15	10	14	5	16	10	5
29	12	29	15	6	34	15	17	22	5	18	6	10
30	9	36	11	9		12	10	17	29	19	6	9
31	19		7	29		10		9		7	5	
MEAN	12	18	12	13	16	22	17	14	10	9	9	13

GEOMAGNETIC ACTIVITY INDICES


DAYS IN SOLAR ROTATION INTERVAL
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27
ROT.-NO.
1954
Jun 23 25 30 1 5 10 15 19 Jul
1955
Jul 20 25 30 31 1 5 10 15 Aug
1956
Aug 16 20 25 30 31 1 5 10 11 Sep
1957
Sep 12 15 20 25 30
Oct 1 5 8 Oct
1958
Oct 9 10 15 20 25 30 31 1 4 Nov
KEY
0 1 2 3 4 5 6 7 8 9
0 + - 0 + - 0 + - 0 + - 0 + - 0 + - 0 + - 0 + - 0 + - 0
▲ = sudden commencement
PLANETARY MAGNETIC
THREE-HOUR-RANGE INDICES
Kp (after Bartels)
Kp till 1976 September 30
Ks (from Wingst and Göttingen) till Oct 21

GEOMAGNETIC ACTIVITY INDICES

Hourly Equatorial Dst



Note the sensitivity indicator for each month on the last day of the month and also note that the zero reference level is different for each month.

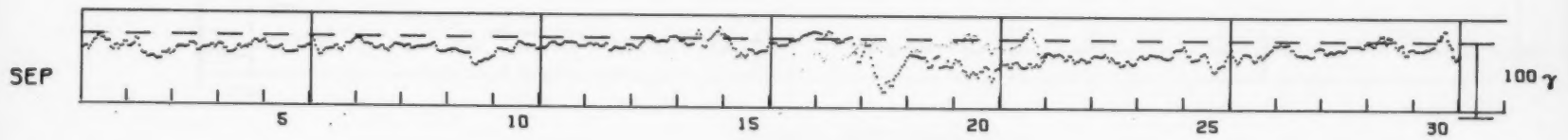
HOURLY EQUATORIAL Dst VALUES (PROVISIONAL)

NASA/GODDARD SPACE FLIGHT CENTER

SEPTEMBER 1976

(Time-UT) (Units-Gammas)

DAY	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
1	-19	-17	-19	-23	-19	-14	-10	-8	-4	-1	-6	-8	-11	-12	-12	-21	-23	-16	-15	-23	-18	-16	-11	-13
2	-19	-17	-15	-13	-6	-9	-19	-26	-28	-27	-31	-30	-29	-30	-33	-35	-32	-32	-25	-27	-25	-22	-28	-25
3	-23	-19	-16	-18	-17	-19	-17	-16	-12	-12	-14	-16	-23	-21	-19	-17	-17	-16	-17	-14	-15	-19	-15	-12
4	-12	-15	-20	-19	-25	-24	-24	-22	-20	-16	-14	-19	-17	-15	-19	-14	-15	-10	-7	-8	-11	-11	-8	-6
5	-11	-16	-16	-19	-19	-17	-17	-15	-14	-21	-24	-24	-24	-22	-23	-21	-23	-16	-16	-16	-17	-14	-13	-11
6	-4	-8	-16	-22	-26	-25	-21	-18	-18	-17	-18	-19	-14	-13	-19	-19	-22	-15	-10	-11	-10	-8	-5	-3
7	-3	-5	-8	-11	-12	-11	-13	-13	-16	-18	-16	-15	-13	-13	-18	-20	-22	-16	-14	-11	-10	-13	-12	-14
8	-16	-13	-12	-12	-17	-16	-15	-14	-15	-14	-13	-15	-13	-12	-12	-10	-9	-15	-20	-22	-20	-20	-21	-18
9	-19	-17	-18	-18	-20	-22	-22	-23	-24	-23	-24	-30	-37	-39	-37	-34	-33	-32	-30	-31	-30	-28	-26	-25
10	-20	-16	-16	-17	-19	-18	-19	-21	-21	-20	-15	-10	-7	-7	-10	-12	-12	-10	-13	-11	-13	-16	-16	-14
11	-15	-17	-14	-12	-9	-7	-7	-9	-11	-12	-11	-9	-6	-8	-7	-6	-8	-9	-9	-12	-13	-13	-12	-11
12	-9	-8	-10	-12	-9	-10	-13	-13	-11	-8	-10	-19	-19	-15	-13	-15	-16	-16	-15	-14	-10	-10	-11	-11
13	-13	-15	-13	-10	-7	-5	0	2	1	1	-3	-6	-5	-5	-4	-4	-5	-7	-3	1	1	2	1	-2
14	-5	-6	-3	-6	-11	-11	-9	-8	-1	5	10	3	-12	-14	-11	-3	-1	2	5	8	9	14	4	3
15	1	0	-3	-8	-15	-16	-26	-23	-20	-24	-27	-23	-15	-17	-18	-21	-21	-18	-17	-16	-17	-16	-11	-6
16	-7	-6	-8	-11	-11	-5	-9	-10	-8	-5	-3	-3	-3	-1	-1	2	4	5	4	7	6	9	7	8
17	6	5	5	1	5	9	9	6	-3	-5	-7	-7	-4	-4	-1	0	1	2	2	-8	-20	-32	-31	-22
18	-17	-9	-9	-10	-26	-36	-46	-51	-62	-66	-72	-70	-57	-55	-63	-61	-53	-48	-45	-41	-36	-33	-29	-24
19	-21	-23	-22	-24	-24	-25	-26	-25	-24	-30	-38	-38	-34	-25	-23	-22	-39	-36	-35	-37	-28	-38	-37	-31
20	-27	-30	-28	-33	-42	-44	-48	-51	-46	-43	-47	-47	-51	-42	-42	-36	-36	-40	-50	-57	-52	-40	-38	-34
21	-28	-34	-33	-32	-37	-38	-36	-30	-32	-35	-38	-39	-39	-36	-32	-32	-38	-35	-32	-36	-34	-30	-27	-22
22	-18	-20	-21	-23	-20	-21	-19	-22	-24	-28	-26	-21	-23	-26	-32	-28	-29	-25	-26	-28	-31	-28	-28	-23
23	-21	-22	-22	-24	-23	-21	-19	-23	-28	-24	-27	-30	-29	-29	-35	-33	-32	-28	-27	-31	-34	-32	-30	-24
24	-21	-21	-25	-24	-22	-19	-19	-21	-22	-21	-21	-23	-25	-25	-26	-24	-23	-21	-14	-12	-12	-13	-11	-8
25	-13	-21	-22	-28	-27	-25	-26	-24	-20	-18	-17	-21	-29	-35	-42	-44	-40	-36	-34	-32	-34	-25	-20	-17
26	-12	-21	-25	-30	-27	-22	-18	-18	-18	-20	-22	-26	-29	-26	-21	-19	-24	-21	-18	-16	-13	-11	-7	-8
27	-7	-5	-1	-6	-7	-5	-6	-13	-13	-17	-20	-19	-20	-22	-19	-20	-22	-23	-21	-20	-12	-10	-9	-11
28	-12	-17	-19	-15	-13	-17	-16	-13	-12	-13	-15	-14	-11	-7	-8	-7	-7	-8	-7	-7	-10	-9	-4	-3
29	-4	-6	-8	-6	-2	2	6	6	1	-4	5	3	0	-1	-8	-11	-7	-5	-14	-19	-18	-11	-10	-11
30	-14	-13	-13	-14	-13	-11	-10	-10	-8	-7	-6	-1	3	2	8	14	12	1	-3	-9	-20	-25	-22	-19



PRINCIPAL MAGNETIC STORMS

SEPTEMBER 1976

OBS. 2 letter IAGA code	GEOMAG-NETIC LATI-TUDE	COMMENCEMENT DAY	hr min (UT)	TYPE	SC - AMPLITUDES D(')	H(γ)	Z(γ)	MAXIMUM 3 HOUR - INDEX K DAY(3 HOUR PERIOD)	K	RANGES D(')	H(γ)	Z(γ)	UT END DAY	HOUR
HD	7.6N	1	0720	..	..	..	..	02(2)	5	6	74	30	02	23
NE	55.1N	1	19--	..	..	..	..	02(3)	7	55	125	166	05	18
TU	40.4N	1	19--	..	..	..	..	02(3)	6	13	90	20	02	17
BD	48.9N	2	0518	SC	+12	+82	-25	02(3)	6	28	118	51	02	17
GN	43.2S	2	04--	..	..	..	..	02(2,4)	5	14	70	70	13	12
HD	7.6N	14	0954	SC	- 0.1	+10	- 1	14(4,5,6,8)	3	5	60	34	15	15
AL	9.5N	16	17--	..	..	..	..	18(2,3)	5	7	160	40	18	19
AN	1.5N	16	17--	..	..	..	..	--	-	4	203	58	18	19
TV	1.1S	16	17--	..	..	..	..	--	-	2	255	109	18	19
HD	7.6N	17	1800	..	..	..	..	18(4)	6	5	158	20	18	21
CO	64.6N	17	21--	..	..	..	..	18(3)	7	159	1710	940	18	16
FR	49.6N	17	19--	..	..	..	..	18(2,3,4)	5	20	110	65	18	15
BD	48.9N	17	21--	..	..	..	..	18(4)	6	27	66	52	18	17
KG	56.5S	17	19--	..	..	..	..	18(2,4)	5	--	--	--	18	15
GU	4.0N	18	0352	..	..	..	..	18(4)	6	0	170	10	18	16
SI	60.0N	18	05--	..	..	..	..	18(4)	7	60	--	530	18	15
NE	55.1N	18	03--	..	..	..	..	18(4)	6	43	192	237	18	18
IR	41.0N	18	0300	..	..	..	..	18(4,5) 20(5)	6	24	156	49	21	21
HU	06.1S	18	0100	..	..	..	..	20(5,6)	5	6	208	35	20	24
HR	33.7S	18	03--	..	..	..	..	18(2,3,4)	5	19	93	68	18	16
GN	43.2S	18	04--	..	..	..	..	20(5)	6	24	130	120	23	16
TO	46.7S	18	03--	..	..	..	..	18(4)	6	19	180	80	18	16
AL	9.5N	19	08--	..	..	..	..	19(7) 20(2,5) 21(7)	5	5	87	36	21	21
HD	7.6N	19	0500	..	..	..	..	19(7) 20(5)	5	5	96	24	20	23
GU	4.0N	19	1008	..	..	..	..	20(5)	5	0	80	20	21	01
AN	1.5N	19	08--	..	..	..	..	--	-	4	102	66	21	21
CO	64.6N	19	09--	..	..	..	..	20(4,5)	7	262	1480	980	21	20
SI	60.0N	19	10--	..	..	..	..	20(5)	7	70	710	510	21	20
NE	55.1N	19	0857	..	..	..	..	20(2,3)	6	56	148	179	23	01
WI	54.2N	19	10--	..	..	..	..	20(6)	6	30	160	75	22	02
FR	49.6N	19	10--	..	..	..	..	20(2)	6	32	160	75	23	01
BD	48.9N	19	05--	..	..	..	..	20(2)	7	54	129	87	22	18
TU	40.4N	19	10--	..	..	..	..	20(2,3)	6	23	110	20	22	22
HR	33.7S	19	16--	..	..	..	..	20(2)	5	18	94	70	20	23
TO	46.7S	19	10--	..	..	..	..	20(4,5)	5	24	140	40	20	18
KG	56.5S	19	09--	..	..	..	..	20(5)	6	--	--	--	22	21
TV	1.1S	19	08--	..	..	..	..	--	-	3	133	73	21	21
HD	7.6N	24	2345	SC	- 0.1	+10	- 1	26(1)	5	6	112	38	26	04
CO	64.6N	24	2345	SC*	+ 7	-26	+ 9	25(3,4)	6	175	940	620	25	21
NE	55.1N	24	2345	SC*	1	13	..	25(4)	5	21	76	96	26	07
WI	54.2N	24	2346	SC	- 1	+19	0	25(7,8) 26(1)	5	27	170	60	26	03
HR	33.7S	24	23--	..	..	..	..	25(8) 26(1)	5	17	96	67	25	03
AL	9.5N	25	08--	..	..	..	..	25(5) 26(1)	5	6	93	43	27	03
AN	1.5N	25	08--	..	..	..	..	--	-	5	107	64	27	03
TV	1.1S	25	08--	..	..	..	..	--	-	4	144	67	27	03
HD	7.6N	28	2225	SC	- 0.1	+ 7	- 1	29(2,3,4,5,6,7)	3	5	59	31	29	23

Reports were received from the following observatories:

College, Sitka, Newport, Witteveen, Fredericksburg, Boulder, Tucson, San Juan, Honolulu, Irkutsk, Alibag, Hyderabad, Guam, Annamalaingar, Huancayo, Trivandrum, Hermanus, Gnangara, Toolangi, Port-aux-Francais

SUDDEN COMMENCEMENTS AND SOLAR FLARE EFFECTS

SEPTEMBER 1976

PRELIMINARY REPORT ON RAPID MAGNETIC VARIATIONS (by Dr. A. Romañá)

The meaning of the station symbols is given in the IAGA-Bulletins nr. 32. Times of ssc are mean values.

Sudden commencements followed by a magnetic storm or a period of storminess (ssc)

n o n e

Solar-flare effects (sfe)

Effects confirmed by ionospheric or solar observations are underlined.

n o n e

RADIO PROPAGATION QUALITY FIGURES AND FORECASTS

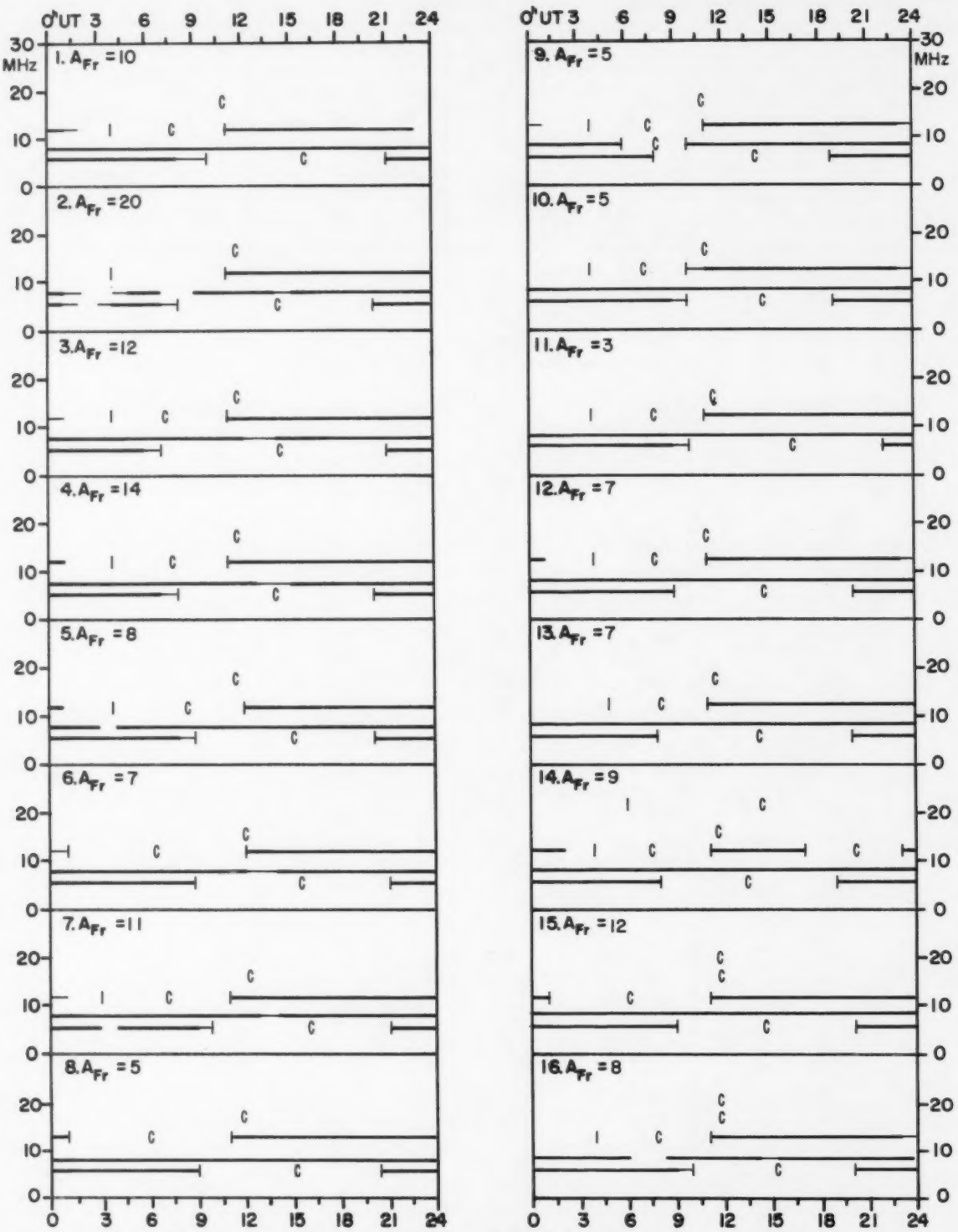
SEPTEMBER 1976

North Atlantic

SEP 1976	WHOLE DAY INDICES NORTH ATLANTIC	ADVANCE FORECASTS (JC-REPORTS) FOR WHOLE DAY	NORTH ATLANTIC 6-HOURLY QUALITY FIGURES 00 TO 06	06 TO 12	12 TO 18	18 TO 24	SHORT-TERM FORECASTS ISSUED ABOUT ONE HOUR IN ADVANCE OF 02	08	14	20	GEOMAGNETIC INDICES K_{FR} HALF DAY (1)	(2)	A_{FR} OBSERVED
01	6o	6	6o	6-	6+	6-	6	6	6	6	2	2	10
02	5+	6	5o	5o	6o	6-	6	5	5	5	(4)	3	20
03	5+	6	5o	4+	6-	6o	6	6	6	5	3	2	12
04	6-	6	5+	5+	7-	6+	5	5	5	5	3	2	14
05	6-	5	6-	5-	6+	6o	5	5	5	5	3	2	8
06	5+	5	5+	5o	6-	6-	5	5	6	6	3	1	7
07	6-	6	6-	5o	7-	6+	5	5	6	6	3	2	11
08	6+	6	6-	6o	7o	6+	5	6	6	6	2	1	5
09	6o	6	6o	6-	7-	6o	6	5	6	6	2	1	5
10	6o	6	6-	6-	7-	7-	6	6	6	6	1	2	5
11	6+	6	6+	6o	7-	6+	6	6	6	6	1		2
12	6o	6	6o	6+	6o	6o	6	6	6	6	2	1	7
13	6o	6	6-	6-	7-	6+	6	6	6	6	2	1	7
14	6-	6	6-	5+	6+	6o	6	6	6	6	2	3	9
15	6-	6	6o	4+	6o	6+	6	6	6	5	3	2	12
16	6-	6	5o	5o	7-	6-	5	5	5	6	2	2	8
17	6o	6	6o	6-	6+	6+	6	6	6	6	2	2	10
18	5+	6	6o	5+	5-	5-	6	5	4	4	(4)	3	25
19	5+	5	5-	6-	6-	6-	5	5	6	5	2	(4)	16
20	5-	5	5o	4o	5-	5-	5	4	4	4	(5)	(4)	40
21	5o	5	5-	4o	5+	5+	4	4	5	5	3	3	17
22	5+	5	5o	5o	6-	6-	5	5	5	5	3	3	16
23	5+	5	5o	5o	6-	5+	5	5	5	5	3	2	13
24	5+	5	5-	4+	6-	6o	5	5	6	6	2	1	6
25	5+	5	6-	5o	6o	5o	6	6	5	5	(4)	3	19
26	5+	5	4o	6-	6+	6-	5	5	6	6	2	2	8
27	5o	5	5o	4+	5+	6o	6	6	6	6	3	2	12
28	6o	5	6-	6-	6+	6+	6	6	6	6	2	1	5
29	6o	5	6o	5o	6+	7-	6	5	6	5	2	2	9
30	6+	5	6o	6-	7-	6+	6	6	6	6	2	2	9

TRANSMISSION FREQUENCY RANGES -- NORTH ATLANTIC PATH

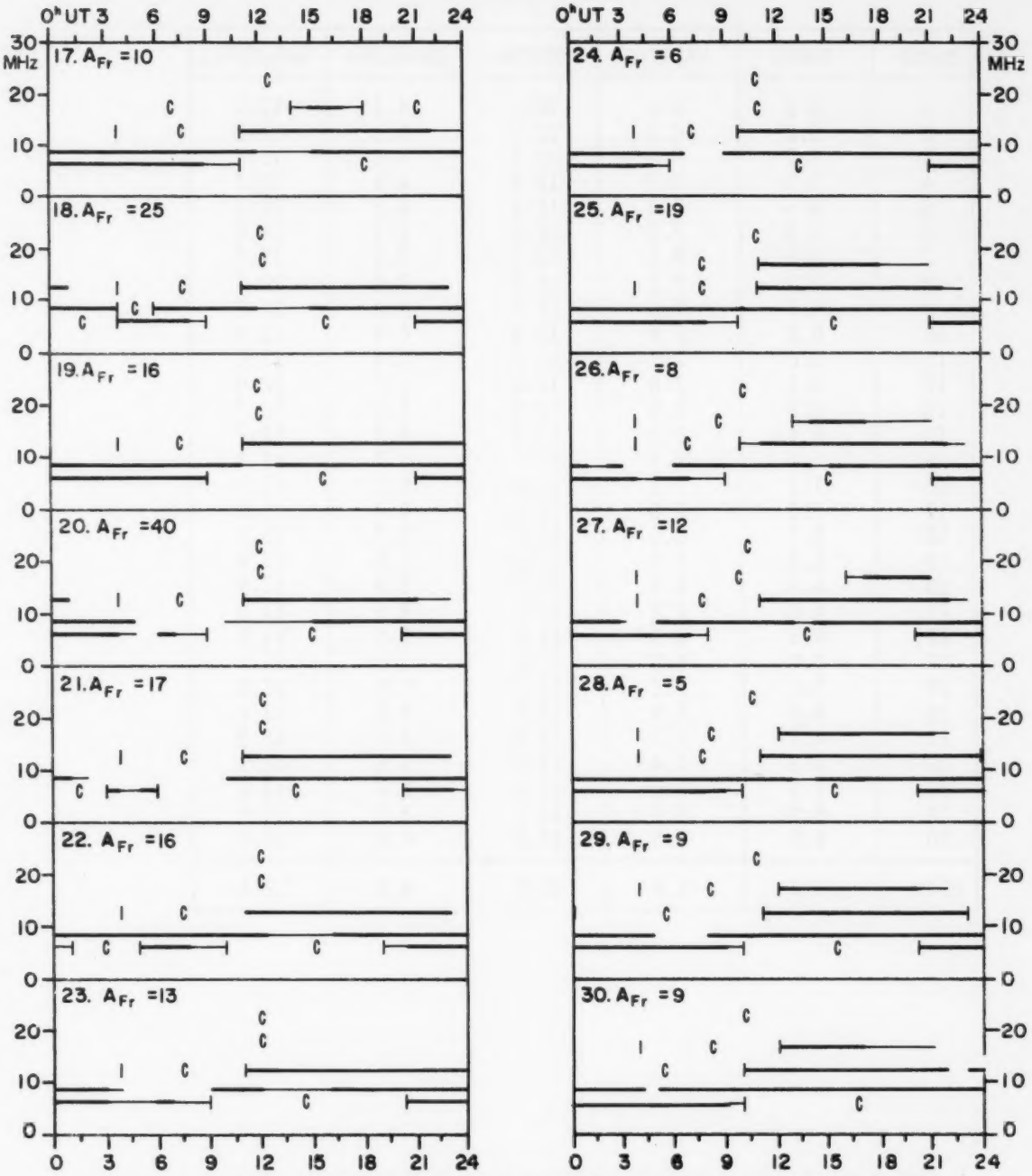
SEPTEMBER 1976



C = no value because of technical trouble or interference.

TRANSMISSION FREQUENCY RANGES -- NORTH ATLANTIC PATH

SEPTEMBER 1976



Field strengths from five frequencies, 6.425, 8.542, 12.813, 17.084 and 22.378 MHz, observed on a Lüchow - Halifax circuit are represented above. Heavy solid lines represent field strengths ≥-12 dB above 1 μv/m (transmitter power reduced to 1 kW). Observed field strengths between -12 dB above 1 μv/m and -40 dB above 1 μv/m are represented by the fine line.

Adapted from Observations by Deutsche Bundespost

RADIO PROPAGATION QUALITY INDICES

SEPTEMBER 1976

DATE	TOKYO	HALIFAX	MOSCOW	CANBERRA	BRACKNELL
1	5.6	6.6	12.2	4.2	13.0
2	5.0	6.5	12.5	4.1	12.2
3	5.7	7.0	12.3	4.5	12.7
4	5.4	7.3	12.4	4.6	12.7
5	6.5	7.3	12.6	4.2	12.7
6	5.9	7.3	12.8	4.1	13.0
7	6.0	8.3	13.3	3.6	13.7
8	6.3	7.7	12.8	3.9	12.7
9	5.7	7.6	12.8	4.0	12.2
10	6.3	7.4	13.0	4.4	12.6
11	6.0	7.7	13.0	4.4	13.2
12	6.1	7.8	12.8	4.7	12.9
13	6.9	8.0	12.6	4.3	12.7
14	6.4	8.2	13.0	4.4	13.2
15	5.6	6.9	12.7	4.7	12.8
16	7.1	7.3	12.8	5.1	13.3
17	7.3	7.8	12.6	4.7	13.0
18	6.7	6.9	13.1	5.3	12.7
19	6.9	7.1	13.8	5.5	13.6
20	4.2	5.5	12.7	3.9	12.4
21	4.8	7.2	12.7	3.6	13.3
22	4.5	6.9	11.8	3.5	13.0
23	4.9	6.8	11.6	3.3	13.2
24	5.2	7.2	11.7	4.0	12.8
25	4.6	6.9	12.1	3.6	13.2
26	4.5	6.7	11.8	3.7	12.3
27	4.3	7.4	13.3	3.5	12.5
28	5.9	9.6	13.4	3.7	13.2
29	6.0	9.4	13.1	3.7	13.5
30	6.5	8.3	13.2	4.6	13.4
MEAN	5.8	7.4	12.7	4.2	12.9

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1776-1976